Menlo Park Green Ribbon Citizens' Committee

Climate Action Report & Recommendations

November 14, 2007

Because global warming emissions remain in the atmosphere for up to 100 years, the choices we make today will greatly influence the climate and quality of life our children and grandchildren inherit.

MENLO PARK
Green Ribbon
Citizens'
Committee

November 14, 2007

The Honorable Kelly Fergusson
Mayor, City of Menlo Park
701 Laurel Street
Menlo Park, CA 94025

Dear Mayor Ferguson,

On behalf of the Menlo Park Green Ribbon Citizen's Committee (GRCC), we are pleased to present our research and recommendations for addressing within the Menlo Park community the global climate change crisis. It has been an honor for each of us to be engaged in these efforts.

The enclosed document includes the following sections:

- Executive Summary - highlighting the climate change issues facing Menlo Park and listing the GRCC's key recommendations
- Background - reviewing the climate change crisis, current efforts underway to curb greenhouse gases
- GRCC Overview - describing the GRCC's organization and activities
- GRCC Recommendations - outlining our 32 highest priority recommendations, and suggested next steps.
- Subcommittee Reports – presenting our full set of 130 proposals, organized by subcommittee, with a summary chart and description of each specific proposal, including reference notes.
- Appendix

We intend for the efforts of the more than 40 individuals who contributed to this report to have a significant impact and to guide City policy and community action for many years to come. We particularly hope that Menlo Park will neutralize its carbon emissions over the next 20 years, serve as a role model for cities and communities all over the world, and prosper from our efforts.

Best regards,

Mitch Slomiak, on behalf of the Menlo Park Green Ribbon Citizens' Committee

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ACKNOWLEDGEMENTS

The Green Ribbon Citizens' Committee gratefully acknowledges the inspiration of former Mayor **Gail Slocum** who urged climate change action to our community, the leadership of **Mayor Kelly Fergusson** who called for a citizen-led effort, the dedication of **Menlo Park City staff** who provided invaluable assistance to us, and the selfless contributions of **Chris Bui** to our community engagement process.

We also wish to thank the following speakers whose expertise informed our process:

Stephen Schneider, Climatologist, Stanford University; member of the Nobel Prize winning IPCC; Co-Director, Center for Environmental Science and Policy)
Winston Hickox Partner, California Strategies LLC; currently chair, A.B. 32 Market Advisory Committee; former Secretary of Cal-EPA
Lawrence Goulder Stanford Environmental and Resource Economics professor; Vice Chair, Market Advisory Committee,
James Sweeney Stanford Management Science and Engineering professor; Director of the Precourt Institute for Energy Efficiency.
Clark Kepler, President, Kepler's Books
Kevin McCarthy, Executive Director, South Bayside Waste Management Authority
Micah Lang, Program Officer, ICLEI – Local Governments for Sustainability
Walt Hays, Chairman, Palo Alto Green Ribbon Task Force
Kristi Breisch, Coordinator, Kepler's Go-Green Summer Series
Dianne Dryer - Menlo Park City Staff Liaison - Environmental Programs Coordinator
Kent Steffens – Menlo Park Director of Public Works and former Acting City Manager

Meeting Facilitators and Guests
Richard Kass - Videographer -, Stanford Adjunct: Leadership; Menlo Park
Lisa Friedman, Ph.D. - Formational Meeting Facilitator - Enterprise Development Group
IDEO Staff – brainstorm facilitation
Glen Rojas - City Manager, City of Menlo Park

Honorary Hosts:
Kelly Fergusson, PhD., P.E., Mayor of Menlo Park; Civil Engineer; Menlo Park
Heyward Robinson, PhD, Sr. Research Engineer, SRI; Member, Menlo Park City Council; Menlo Park

SUBCOMMITTEES
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Sarah Browning, Morgan Stanley (clean technology specialist); San Francisco
Jeanne Durnford, Menlo Park Environmental Quality Commissioner, retired Chemical Process Engineer United Airlines, President of The Unitarian Universalist Fellowship of Redwood City; Menlo Park
Erik Fogelberg, MMA Renewable Ventures; Menlo Park
Patti Fry, Former Menlo Park Planning Commissioner, retired business executive; Menlo Park
Tom Kabat, Utilities Resource Planner; Palo Alto GRTF Member; Menlo Park
Manfred Kopisch, Computer Scientist; Menlo Park
Mary Kelley, Teacher; Menlo Park
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Denise Sans, Procurement Coordinator for Palo Alto Unified School District; Menlo Park
Mitchel Slomiak - **Co-Chair,** Menlo Park Environmental Quality Commissioner, Virtual CFO; Menlo Park
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Kristi Breisch, Coordinator, Kepler's Go-Green Series; Founder, ProActive Teams; Menlo Park
Michelle Kraus, CEO Carbon Tracing, Inc.; Menlo Park

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Patty Boyle, Menlo Park Housing Commissioner; retired; Menlo Park
Elaine Breeze, Development Manager, Summerhill Homes; Palo Alto
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Patti Fry, Former Menlo Park Planning Commissioner, retired business executive; Menlo Park
Dan Kocher, Menlo Park Environmental Quality Commissioner; Menlo Park
Rich Mintz, Lighting Design Specialist, Green Building Exchange; Menlo Park
Dave Muffly, Arborist; Menlo Park
Margaret Petitjean, Multi-family Residential Landlord; Menlo Park
Judy Rocchio, National Park Service; Menlo Park
Gail Slocum, Former Mayor, Menlo Park; Planning Commissioner, San Mateo County; Senior Energy Policy Attorney, PG&E; Menlo Park
Randy Schmitz - Chair; Founder, Integrity Block, Inc.; Menlo Park
Jorie Schultz, United States Geological Survey; Menlo Park
Peck Yee Tan, Architect, LEED A.P; Menlo Park

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Tom Forrest, retired; Menlo Park
John Fox, Menlo Park Bicycle Commissioner, Stanford faculty; Menlo Park
John Morris, Menlo Park
Ezio Alvito; Menlo Park
Steve Taffee, IT head at Castilleja School; Menlo Park
Steve Schmidt, Former Mayor of Menlo Park, retired architect; Menlo Park
Charles Bourne, Menlo Park Transportation Commissioner, retired; Menlo Park
Elizabeth Lasensky, Menlo Park Housing Commissioner; administrator, Stanford University; Menlo Park

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Elizabeth Houck, Consultant; Menlo Park
Michelle Kraus, CEO Carbon Tracing, Inc.; Menlo Park
Adina Levin, Vice President SocialNet; Menlo Park
Sam Perry, Stanford Fellow, Reuters Digital Vision Program; venture consultant; Menlo Park

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* **Suzanne Wilson**, Founder, Re-Art (green business); Menlo Park

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SECTION ONE

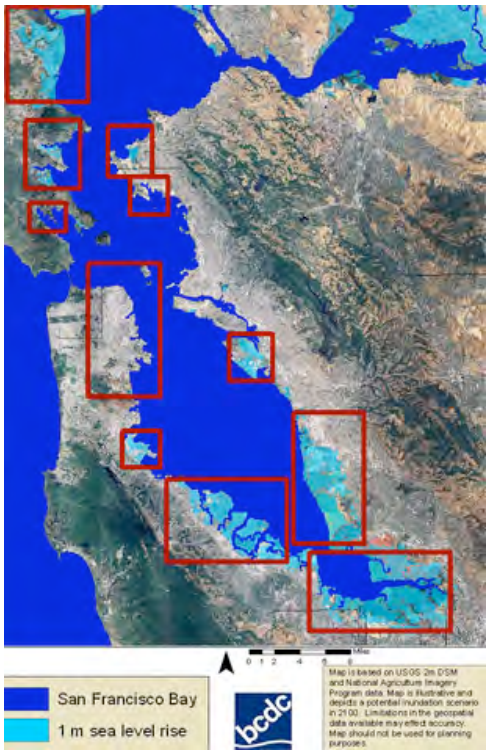
EXECUTIVE SUMMARY

"Because most global warming emissions remain in the atmosphere for decades or centuries, the choices we make today greatly influence the climate our children and grandchildren inherit. The quality of life they experience will depend on if and how rapidly California and the rest of the world reduce these emissions."[1]

The Climate Change Challenge

Climate change is a crisis - not merely a problem - with potentially severe and long-lasting impacts. Many of these impacts are already being felt in communities and ecosystems throughout the world. Prompt action is necessary to curb and eventually cut short the effect of greenhouse gas increases and global warming. Even with such action, scientists tell us that we should anticipate continued warming and some unavoidable impacts because of the continued presence of greenhouse gas emissions already accumulated in the atmosphere.

In California, increased warming is expected to cause continued loss of Sierra snow pack, significant sea level rise, increased health risks along with more days of extreme heat and "Bad Air," drought, flooding, large-scale wildfires, and temperature-related adverse impacts on agriculture and tourism.



Menlo Park faces risks to our water and power supplies from reduced snowpack, to flooding, and to rising sea levels that could inundate essential commercial and residential areas east of Highway 101 as well as the West Bay Sanitary District's water treatment plant, local highways and airports.

Unlike prior atmospheric problems such as acid rain and ozone holes, our changing climate cannot be addressed with a few relatively simple measures. The current problems are complex and wide-ranging, requiring comprehensive action at all levels – globally, locally, and individually - towards the specific goal of reducing greenhouse gas emissions, particularly carbon dioxide (CO_2), in order to stabilize greenhouse gas levels in the atmosphere.

Fortunately, we have ready access to relevant technology and ideas to address the climate change challenge. *Being first in the world to do so could bring economic benefits…while failing to do so will almost assuredly cause great hardship.*[2]

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[1] "Our Changing Climate, Assessing the Risks to California," California Climate Change Center, July 2006, CEC-500-2006-077

[2] Union of Concerned Scientists, www.climatechoices.org

The Context

Although the United States has a mere 5% of the world's population, we produce about 25% of the world's greenhouse gases. We are also the world's wealthiest and most innovative economy. As such we are in a unique position: no other country bears a greater responsibility – or possesses a greater capacity – to lead the global response on this issue. Although effective action on climate change clearly also requires international efforts, success will be impossible without strong leadership throughout the United States to significantly reduce our country's large and growing greenhouse gas footprint.

Unfortunately, the US is one of only three developed nations that has thus far refused to limit its greenhouse gas pollution by adopting carbon caps such as those in the Kyoto Protocol, which call for a 7% reduction below 1990 CO_2 emission levels by 2012.

Fortunately, rapid action at state and local levels has emerged in advance of a concerted national response. Last spring, Menlo Park joined more than 710 mayors, representing a total population of more than 75 million citizens, by signing the U.S. Mayors' Climate Protection Agreement. This resolution aligns the Menlo Park community with the Kyoto standard.

California continues decades of leadership to address air pollution and climate change. In the past several years, dramatic steps have been taken, including Green Building Initiative, California Solar Initiative (expanded in 2006), Clean Cars Law (2004); Governor's Executive Order (2005) establishing aggressive goals for the State of California to address global climate change, declaring *"The debate is over. We know the science. We see the threat. And we know the time for action is now;"* Greenhouse Gas Emissions Performance Standard Act (2006); Solar Water Heating and Efficiency Act (2007).

A particularly encompassing step is the California Global Warming Solutions Act of 2006 (AB 32) that declares global warming poses a serious threat to the economic well-being, public heath, natural resources, and the environment of California and sets the following goals:

- By 2010 – reduce to year 2000 CO_2 emission levels, *11% below business as usual*
- By 2020 – reduce to 1990 CO_2 emission levels, *25% below business as usual*
- By 2050 – reduce to 80% below 1990 CO_2 emission levels

Along with other measures, this is expected to save $100 million/year (e.g. California sends over $30 billion out of state every year to buy fossil fuel). Economic benefits of conservation and efficiency have previously been proven through California's early efforts to set building and appliance energy efficiency standards, which saved businesses and individuals $56 billion dollars in energy costs between 1975 and 2003.[3]

[3] Climate Action Team "Frequently Asked Questions", April 3, 2006, p. 2

The overall economic benefits of California's climate change strategies would create $4 billion in additional income and 83,000 new jobs by 2020.[4]

Green Ribbon Citizens' Committee (GRCC) - Overview
In February 13, 2007 Menlo Park Mayor Kelly Fergusson called on the community to convene a volunteer task force, the Menlo Park Green Ribbon Citizen's Committee (GRCC), to research and recommend measures the City and community can take to greatly reduce greenhouse gas emissions. At subsequent meetings, City Council unanimously voted for Menlo Park to sign the Mayors' Climate Initiative and join the Sierra Club Cool Cities program, thereby establishing initial community-wide goals to address climate change and enabling access to best practices in other communities.

The GRCC's initial meeting on March 14, 2007 was attended by 65 community members, representing a diverse range of expertise and perspective. The GRCC organized itself into five topical working groups, or subcommittees, with voluntary membership based upon the expressed interest of individual participants:

- Energy and Waste Reduction
- Transit and Transportation
- Land Use and Building
- Communications, Education, and Outreach
- Green Business Development

Each subcommittee utilized the substantial GRCC brainstorm lists and developed its own plan to determine which items to review in depth.

The GRCC has met on a bi-weekly basis since inception, in fully-noticed meetings open to the public. Full GRCC meetings have generally included talks by one or more experts on specific climate change related topics as well as a working session for either the full body or subcommittees. Meeting minutes and work products are posted to a Yahoo Group site, further facilitating collaboration.

More than 120 individuals have attended one or more GRCC related meetings and more than 40 actively participated in researching and composing the 130 detailed written proposals that are included in this report.

The GRCC submitted a number of interim low cost, high impact recommendations for City Council to consider for inclusion in the current budget. Fourteen of these measures were budgeted by City Council in its June 19, 2007 session.

From June to October 2007, each GRCC subcommittee prepared and vetted a series of actionable final proposals for the City government and community to reduce greenhouse gases.

[4] Climate Action Team Report, Cal EPA, March 2006, page 84.

Throughout our effort, the GRCC was able to learn from other experts and communities throughout the country and from past city actions (the City of Menlo Park has implemented a number of effective measures in recent years). Bay Area communities in Marin and Alameda counties as well as San Francisco and Palo Alto have provided particularly helpful examples to inform our work.

GRCC Effort – Subcommittee Focus

The work of the GRCC was accomplished by its subcommittees. Accordingly, this summary presents only the barest highlights of their recommendations, with each subcommittee's own report provided in our complete document.

Energy & Waste Reduction Subcommittee focused on initiatives related to energy conservation, energy generation, and waste reduction. Of paramount importance to this subcommittee were measures that can significantly reduce greenhouse gases while providing financial or other incentives to stakeholders.

- *Energy conservation* is the most expeditious means for reducing greenhouse gases and generally offers significant financial benefits following implementation.
- *Renewable energy generation* measures are important to find carbon neutral substitutes, such as solar power, for energy needs that cannot be conserved.
- *Waste reduction* provides further greenhouse gas benefits because the methane gas released from the decomposition of organic landfill wastes is more than 20 times more harmful to the climate than carbon dioxide.

Transportation & Transit Subcommittee

This subcommittee focused on three different kinds of solutions that would reduce our community's carbon footprint, based on the primary decision-making entity:

- *Authorities other than the City of Menlo Park* - such as for High Speed Rail;
- *The City, as a government entity* - such as implementing the MP Bicycle Commission's Master Bicycle Plan;
- *Personal decisions* - things our residents can do, such as stepping out of our comfort zone and using the train instead of a car to get to AT&T Park and watch the Giants play in San Francisco.

Land Use & Building Subcommittee examined initiatives in four primary areas:

- *Sustainable Building* - Buildings, considering their ongoing operation and the processes of construction and renovation, represent one of the largest opportunities to reduce energy consumption and related GHG.
- *Sustainable Water Conservation and Landscaping* - Movement of water is one of the highest uses of energy in California. Conserving water will help reduce energy-related greenhouse gas emissions as well as preserve this scarce resource
- *Urban Forest* - Maintaining a healthy urban forest is an important part of the City's desire to mitigate its greenhouse gas emissions through carbon sequestration and long-term storage, as well as shading to limit the urban heat island effect.
- *Land Use* – Decisions about where and how to accommodate growth can help reduce dependence on the automobile to conserve energy and reduce air

pollution, and to preserve land that can be used for community parks and carbon sequestration.

Communications, Outreach, and Public Education Subcommittee

The recommendations this group prioritized fell into several groups:

- *Provide practical education* about emissions reductions
- *Teach sustainable building*
- *Promote energy audits*
- *Provide education* about energy conservation
- *Teach the next generation*
- *Set an example*
- *Raise awareness* across the community
- *Bonus recommendation:* intern program to help disseminate information

Green Business Subcommittee

The highest priority Green Business recommendations focus primarily on:

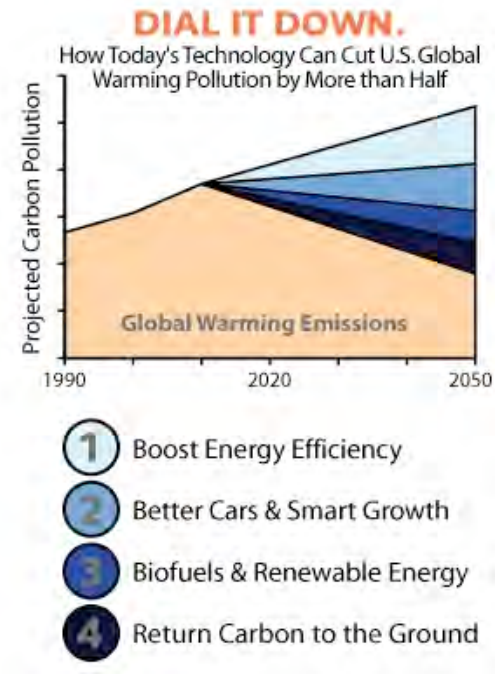
- *Streamlining* the permit and planning process for green building and green upgrade projects by existing businesses and residents in the City.
- *Encourage the use of low energy appliances* in both residences and businesses within the City;
- *Build on the past successes of solar* installations in the neighboring residential communities.

It will, however, be necessary for the City to reach far beyond the above recommendations to achieve long-term success for the reduction of carbon emissions in the City both from the residential and commercial sectors.

Core Principles

Underlying the creation of the full set of recommendations was GRCC awareness of core principles to address the climate change challenge:

- *Energy conservation* – reducing use of energy and fuel; the most cost-effective ways to reduce the growing problem of greenhouse gas emissions
- *Alternative energy* – switching to cleaner and renewable energy sources
- *Mitigation* – sequestering carbon in trees or other "offset" measures
- *Adaptation* – addressing likely impacts such as sea level rise
- *Education* – promoting all of the above measures through individual and community action



Natural Resources Defense Council

Additionally, the GRCC felt it to be important for the Menlo Park community to establish audacious and attainable goals to focus action over the long term, beginning with the sources of the greatest greenhouse gas emissions in our own community: commercial and residential energy use, transportation fuel use.

GRCC Recommendations – High Level Summary

In late October 2007 a citizen engagement process, open to anyone, was conducted to rank and prioritize the subcommittees' 130 proposals based on perceived impact, importance, and feasibility. Thirty-three participants were present for this process. Based on this session, 32 proposals were ranked as highest priority in terms of importance/impact and feasibility. These are recommended for immediate action, and are highlighted in our document. Each of the 130 reviewed proposals is included in the section Subcommittee Reports.

Consistent with the desire to create audacious goals, the top-ranked GRCC recommendation is to adopt a goal of achieving "climate neutrality" in our community by 2030, and develop a Climate Action Plan to timely achieve this goal. Climate neutrality requires a combination of greenhouse gas emissions reduction, carbon sequestration (e.g., tree planting and preservation), and offset of remaining net greenhouse emissions by participating in programs with approved energy emission reduction protocols.

This audacious goal provides focus to organize community efforts, and enables Menlo Park to join with many other municipalities and institutions in taking this strong stance for the future.

The following section summarizes the highest priority recommendations, as ranked through the community engagement process.

High Priority Recommendations

There is a certain degree of overlap or duplication in many of the recommendations, as the sphere addressed by each subcommittee has some overlap with at least one other. These overlaps can be addressed in the context of a climate action plan.

Energy & Waste Reduction

- Establish goal of climate neutrality for Menlo Park community by 2030 and require a Climate Action Plan to address both GHG reduction and GHG offsets
- Adopt a resolution to require commercial recycling participation for companies with high levels of waste
- Adopt a resolution to increase waste diversion target to 75% or more.
- Identify large municipal & commercial sites suitable for solar generation, inform property owner of available incentives
- Increase Participation of MP Commercial and Business Sector in more sustainable activities including PG&E Energy Efficiency Programs
- City develops a sustainable purchasing policy to decrease adverse impacts and set good example

Transportation & Transit

- Work with schools to encourage walking and biking and safe routes program
- Support Electrification of Caltrain, (Reduction of carbon emissions by 2/3)

- Establish policies that encourage accessible sidewalks and bike lanes
- Support High Speed Rail to reduce reliance on air and auto modes from Bay area & Sacramento to Los Angeles
- City continues bid processes to select service providers that use green practices.
- Add Provision for Transit Oriented Development zoning into General Plan
- Implement City's existing Master Bicycle Plan for facilities and improvements

Land Use & Building

- Promote sustainable building practices by instituting checklists such as LEED and BIG, and by providing over-achievement incentive of expedited building permit approval
- Encourage multi-story & higher density housing projects in the downtown area including senior housing
- Protect and maintain healthy trees on MP city lands by employing sustainable Best Management Practices
- Establish turf limitations and water efficient landscape requirements
- Include new residential and major renovation projects in water efficient Ord. #840
- Encourage multi-story, mixed use housing and retail/office projects in the downtown area and in all other areas where housing and other uses now co-exist
- Revise MP's Heritage Tree Ordinance to protect our old healthy trees more effectively
- Remove one dead tree and replace with two live trees on MP City lands to rebuild our Urban Forest

Communications, Outreach & Public Education

- Teach sustainable building - Conduct educational session(s) on sustainable building for architects,, builders, developers, & homeowners. Work with Green Building Exchange & consider cooperating with other peninsula cities to avoid duplication of efforts.
- Encourage recycling at city functions, parties, shows, Santa Cruz Avenue events (including Connoisseur's market) – there should be 100% recycling, including re-usable or recyclable plates/napkins/eating utensils. Encourage restaurants to use compostable containers, plates, cups…
- Promote tap water use - Promote Menlo Park tap water vs. bottled water. Provide information about what to do if you have lead pipes.
- Promote green practices at schools - Promote green practices at schools, scouting and other kids clubs. Suggestions include contests at schools: successful energy conservation, who walks/bikes most often, essay contests, posters, artwork, and a Green Science Fair
- Encourage schools to promote alternative transportation - Encourage public and private schools to publicize walking, biking, and carpooling as safe and healthy ways to get kids to school.
- In Home Energy Audits: Green@Home (with a focus on the lower income neighborhoods first and spreading to all neighborhoods).

Green Business

- Develop a carefully articulated, feasible and streamlined permit process for commercial and residential landlords to upgrade their properties with green technologies and practices that reduce green house gas emissions. This includes replacement of high energy consumption appliances. (refrigerators, washers, dryers, etc.)
- Streamline the commercial permit and planning process for green upgrades within the city.
- Eliminate all solar permit fees for both residential and commercial properties.

Our recommendations, if implemented, will establish Menlo Park as a leader in promoting progressive and sustainable land use and building policies that mitigate climate change caused by CO_2 emissions and will improve the environmental, social and economic quality of life for our residents.

Next Steps

The changes underway in the climate must be treated as a crisis, not simply as just another single problem among a voluminous agenda of nagging civic concerns. The climate crisis requires a strong prompt response and high priority action.

Council Action

The GRCC calls on City Council to respond to the climate change challenge by:

- Authorizing an appropriate and expeditious review of our high priority proposals by City staff for prompt presentation to the Council to ensure that these measures are included in the 2008-2009 budgeting cycle.
- Launching a process to develop, as quickly as possible, a **climate action plan** to ensure that these and future measures are adopted in a synchronized fashion, and in the most effective manner possible. The full body of GRCC proposals is intended to speed the development of such a plan by the City and broader community and should be regarded as our initial input into this plan. Additionally, the plan would consider the just-received consultant's report of Menlo Park's 2005 baseline greenhouse gas emissions.
- Budgeting for initial and ongoing implementation of the climate action plan, including support for continuing community involvement (e.g., the GRCC).

Green Ribbon Citizens' Committee Action

Upon delivery of this Report to City Council on November 20, 2007, the GRCC will compile lessons learned from this process to incorporate in our Phase Two and to share with other communities, some of which have already contacted us.

We will then determine the appropriate focus and form of organization for the next set of efforts. Under consideration are:

- *Projects* - to build alliances with community organizations (e.g., Chamber of Commerce, Cool Cities Project, Acterra, school districts, religious groups) to implement many of the proposals from this Report.
- *Public education* - to address the risks and local solutions
- *Advocacy role* - to ensure that municipal recommendations are expeditiously considered and implemented.
- *Resource support* - for City staff and commissions in climate change related activities, including implementation of our recommendations.
- *Exploration* - of additional climate change related issues, such as adaptation, methane gas mitigation in Bayfront Park, and mitigation of air travel.

Conclusion

Local communities such as Menlo Park can experience great benefit and avoid substantial long-term costs by organizing comprehensive efforts to address climate change right now as a risk management strategy. With its unique confluence of venture capital funds, high technology firms, and world class educational institutions, Silicon Valley and Menlo Park can also reap great financial rewards from the development of clean technologies and enterprises that will be well-positioned to meet growing worldwide demand for needed solutions.

Menlo Park as a community has the opportunity to become a role model for what is possible when a small city with a forward-thinking and determined population, commits to long-term action toward a serious and far-reaching crisis. By taking rapid and comprehensive steps toward energy conservation and adoption of clean technologies in our commercial, municipal, and residential sectors, Menlo Park can demonstrate a strong commitment to the future and become an attractive home for many of these vibrant efforts.

The Menlo Park Green Ribbon Citizen's Committee members believe that nothing short of a comprehensive effort on global, national, state, and local levels will be sufficient for addressing the climate crisis. The proposals submitted within this report are intended to point the way toward a comprehensive local approach that will leave a proud legacy for Menlo Park's leaders and citizens.

On behalf of all GRCC participants, we express our appreciation for the opportunity to serve our community in meeting this, the defining moral challenge of our generation.

2. BACKGROUND: THE CLIMATE CRISIS

A. Introduction

"*The debate is over. We know the science. We see the threat and the time for action is now*. *Global warming and the pollution and burning of fossil fuels that cause it are threats we see here in California and everywhere around the world*."
-- Governor Arnold Schwarzenegger (R-CA), June 1, 2005

- Earlier this year, the U.N. Intergovernmental Panel on Climate Change (IPCC) – an international network of over 2,000 climate scientists from 154 countries that has assessed the risk of human induced climate change since 1988 – concluded that the evidence of global warming is "unequivocal," and that human activity is largely responsible for the rapidly increasing concentrations of greenhouse gases in the earth's atmosphere since the pre-industrial period.

- The National Academy of Sciences in 2006 reached a similar conclusion, finding human activities responsible for much of the recent warming, and a consensus has emerged in the scientific community.

- Further, the IPCC notes that the primary source of these increased CO_2 concentrations is fossil fuel use, such as coal-fired power plants and petroleum for transportation, with other significant though lesser sources being land use changes, such as deforestation, and cement production.[5]

- Increases in concentrations of nitrous oxide and methane -- a greenhouse gas over 20 times more potent than $C0_2$ -- are primarily due to agriculture, as well as decaying landfills and retreat of ice sheets from long-covered tundra.

"Polar ice caps are shrinking, glaciers are melting and coastlines are being swallowed by rising sea levels. The culprit? Global warming caused by burning fossil fuels…If we do not slow, stop and reverse global warming soon, we will do irreparable harm to the world around us… We must step up to the plate and address global warming in a comprehensive way."
-- Senator Dianne Feinstein (D-CA)

Climate change is a crisis that could fundamentally change our planet and presents severe health, safety, economic, and environmental risks. At the same time, it offers immense opportunities for a clean-tech economic renaissance with international cooperation. The need for action is urgent. The effectiveness of worldwide actions to manage the risks will largely determine how severe the impacts and dislocations will be.

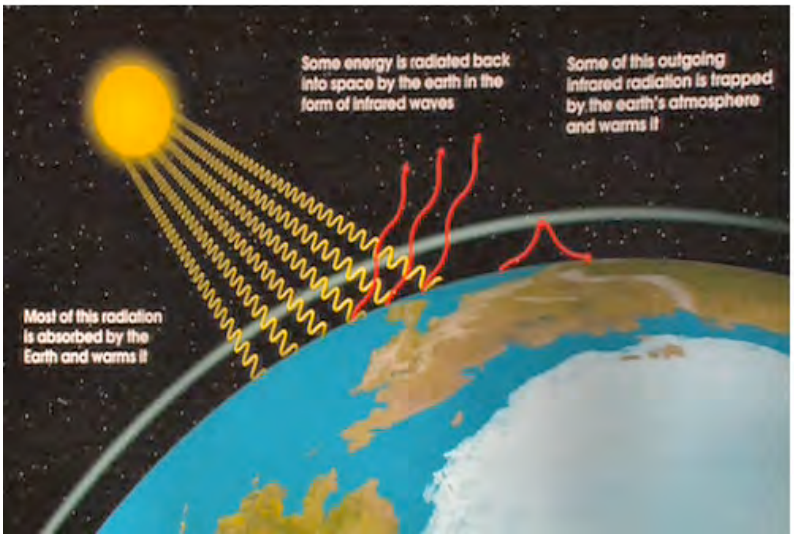
[5] New York Times, 2/3/07; National Academy of Sciences, 2006; IPCC February 5, 2007 "Climate Change 2007: The Physical Science -- Basis Summary for Policymakers" Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Addressing this problem poses the biggest and fastest adaptation challenge our species has ever before faced – requiring unprecedented long-term, cooperative and multidimensional efforts.

We have the technologies to take effective action and we must do so now. The habitability of our planet, the only home we have, is not only an environmental but also an economic imperative. The risk of not acting – not taking serious concrete measures to reduce greenhouse gases and work for the development of responsible policies -- far outweighs the risk of taking strong action now. As the first generation that "knows" the causes and risks, we face a moral imperative to take responsibility and act now, on behalf of future generations who are depending on us. The Reverend Sally Bingham of Grace Cathedral, and other faith leaders, calls climate change "the most important moral issue of our time."

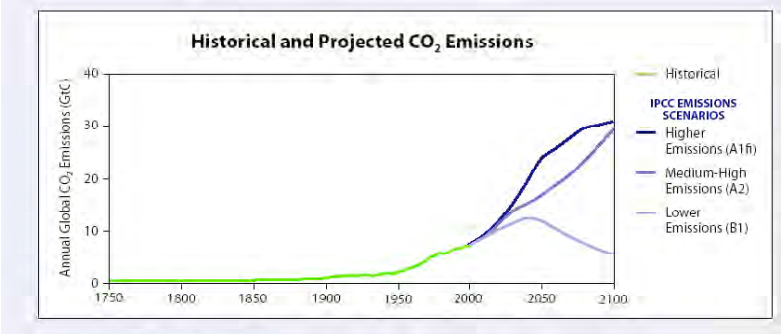
B. Introduction to Climate Change Science

The Earth's atmosphere is naturally composed of a number of gases that act like the glass panes of a greenhouse, retaining heat to keep the temperature of the Earth stable and hospitable for life at an average temperature of 60 degrees Fahrenheit. Carbon dioxide (CO_2) is the most prolific of these gases, and persists in the atmosphere for 50 – 100 years once emitted. Other contributing gases include methane (CH_4), nitrous oxide (N_2O), ozone (O_3), sulfur hexafluoride (SF_6) and halocarbons. Each of these other greenhouse gases is expressed in CO_2 equivalents (e.g., methane is over 20 times more potent than CO_2, and SF_6 is thousands of times more potent). Without the natural warming effect of these gases, the average surface temperature of the Earth would be around 14 degrees Fahrenheit. However, too much of these greenhouse gases would be extremely harmful – possibly catastrophic - to life as we know it.



Greenhouse Gas Concentrations have Skyrocketed

Recently, significantly elevated concentrations of greenhouse gases in the atmosphere have begun to have a destabilizing effect on the global climate, fueling the phenomenon commonly referred to as global warming or global climate change.



As this figure shows, CO_2 emissions from human activities (such as the burning of fossil fuels) were negligible until around the so-called industrial age starting in the 1850s.

- **Lower warming range:** projected temperature rises between 3 and 5.5°F
- **Medium warming range:** projected temperature rises between 5.5 and 8°F
- **Higher warming range:** projected temperature rises between 8 and 10.5°F

IPCC scientists conclude that global atmospheric concentrations of CO_2, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years.

Specifically, the IPCC found that the global atmospheric concentration of CO_2 has increased from a pre-industrial level of about 280 parts per million (ppm) to **379 ppm in 2005**. This exceeds by far the natural range over the last 650,000 years of 180 – 300 ppm, as determined from ice cores. The annual growth rate is increasing and was larger than ever before during the last 10 years (1995 – 2005 average 1.9 ppm increase per year).[6] Most scientific experts believe the world will pass the global CO_2 threshold of 450 ppm in **two or at most three decades** unless we change course very soon. Over the next 25 years, if we do not begin strong measures now to reduce greenhouse gas emissions, the planet will experience **more than a doubling** of current CO_2 levels with more CO_2 released than by all prior generations.

Source: "Our Changing Climate: Assessing the Risks to California," California Energy Commission's Climate Change Center, July CEG-500-2006-077

Scientific Facts and Projections:

- The atmospheric concentration of CO_2 during the last two decades has increased at the rate of 0.4% every year.
- Current CO_2 concentrations are higher than they have been in the last 650,000 years, and according to some research, the last 20 million years.
- About three-quarters of the CO_2 emissions produced by human activity during the past 20 years are due to the burning of fossil fuels.

[6] Global annual fossil CO_2 emissions increased from an average of 6.4 gigatons of carbon (GtC) per year in the 1990s to 7.2 GtC per year in 2000 – 2005. Emissions of CO_2 associated with land use changes were estimated to be 1.6 GtC per year over the 1990s. Global atmospheric concentration of methane has increased from a pre-industrial value of about 715 ppb to 1732 ppb in the early 1990s and 1774 ppb in 2005. The 2005 levels far exceed the natural range of 320 – 790 ppb of the last 650,000 years.

Moreover, IPCC and numerous other respected scientific bodies conclude that **failure to stabilize CO_2 levels at 400 - 450 ppm by 2100 would likely have catastrophic consequences**. Stabilization at 450 ppm CO_2 could require that cumulative emissions over the 21st century be reduced from an average of approximately 650 gigatons of carbon (GtC) to approximately 490 GtC.

C. Effects and Impacts of Climate Change

The Earth is Getting Warmer

The global mean surface temperature has already increased by 1.1 degrees Fahrenheit during the 20th century. According to NASA scientists, the 1990s were the warmest decade of the century, and the first decade of the 21st century is well on track to be another record breaker. Nineteen of the twenty hottest years on record occurred in the 1980's or later.[7] The years 2002, 2003, 2004, 2005 and 2006, along with 1998 were the warmest 6 years since the 1890's, with 2005 being the warmest year in over a century.

According to the IPCC, global mean surface temperatures are on course to increase by between 2.5 and 10.5 degrees Fahrenheit by the year 2100, with certain regions in the northern parts of North America and Asia heating by 40% above the mean increase. Current scientific studies suggest that in order to stabilize greenhouse gas concentrations in the atmosphere at a safe level, global surface temperatures should not exceed 3.6 degrees above pre-industrial levels. **Limiting warming to the 3.6 degree level requires stabilization of CO_2 concentrations at 400 – 450 ppm by 2100.** To meet this target, studies suggest the need for an 80% reduction below 1990 levels of CO_2 emissions by 2050 (which equates to about 2% reduction per year if we start now, which is doable).

Because greenhouse gases, most notably CO_2, remain in the atmosphere a long time (some for more than a century), a lag occurs between a reduction in emissions and a reduction in atmospheric concentrations. As a result, CO_2 concentrations will still increase for decades even with strong early action to reduce and then reverse emissions rates. Therefore, *some impacts are already unavoidable and will require adaptation planning, as well.* The chances for large, abrupt and unwelcome regional or global climactic events have increased.[8]

Whether the mean surface warming this century is held to a 2.5 degree increase or escalates to the potential projection of 10.5 degrees ('business as usual' scenario) depends on the strength and effectiveness of actions we take now to reduce greenhouse gas emissions rates. Even a 2.5 degree additional increase, however, will cause significant harmful impacts. Temperature rises of over 3.6 degrees risk catastrophic events such as losing the Greenland ice sheet, which could raise sea

[7] TIME magazine Cover Story "Special Report Global Warming: Be Worried, Be Very Worried,",March 26, 2006, Jeffrey Kluger; *citing* Goddard Institute for Space Studies, January 2006 data.
[8] Stainforth, et al., "*Uncertainty Predictions of the Climate Response to Rising Levels of Greenhouse Gases*," in Nature 433, 403 – 406.

levels by over 20 feet, shut down the gulf stream and destroy the worlds forests.[9] Both the IPCC and NASA project that warming trends in the 21st century will be significantly larger than in the 20th Century, with estimates of U.S. average temperature rise of 5 to 9 degrees Fahrenheit by 2100.[10]

Global Impacts

If we don't change course and significantly reduce GHG emissions soon, rising levels of GHGs will have a destabilizing effect on a number of different micro-climates, conditions and systems causing dramatic climate changes and a different planetary environment including:

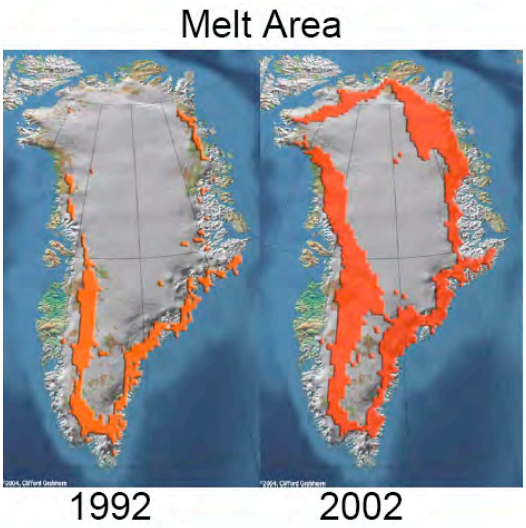
- Shifts in seasonal rhythms
- Ecosystem disruptions with plants and animals forced from habitats and mass extinctions
- Increased **wildfires**
- Significant **sea level rise** displacing entire populations
- Increased **flooding** in certain areas; potential for 50 million flood refugees worldwide
- **Super-charged storms** (the number of category 4 and 5 hurricanes has almost doubled in the past 30 years)
- **Increased heat waves** causing widespread adverse health impacts (e.g. summer 2003 massive heat wave in Europe killed 35,000 people)
- **Increased disease epidemics** (e.g., malaria increasing as mosquitoes spread to higher altitudes putting 2.1 million people at risk)[11]
- **Droughts** (the percentage of the Earth's surface suffering drought has already more than doubled since the 1970's)
- **Famine** from substantially decreased agricultural output
- **National and global security impacts** from increase in failed states, genocidal episodes, and terrorism due to insufficient arable land, water, and food to sustain local populations.

For example, the increase in the temperature of the oceans is projected to accelerate the water cycle, thereby increasing the severity and rate of both storms and drought, which, along with decreased snow pack, will disrupt ecosystems, agricultural systems and water supplies.

Snow cover has already decreased by at least 10% in the last 40 years. Glaciers throughout the Arctic are melting at an alarmingly rapid rate. This includes both a marked retreat of Alaskan glaciers and record melting of the huge Greenland ice sheet, which is now melting much faster than previously predicted, with consequences for

[9] U.S. Senate's International Climate Change Task Force Report, 2005, Co-Chaired by Senator Olympia Snowe (R-ME).
[10] California Climate Action Team, Final Report, April 3, 2006, page 9, www.climatechange.ca.gov
[11] Daniel Lashoff, Natural Resources Defense Council climate scientists, April 2005, citing Stone 1995 and W.H.O. Report.

coastal wetlands and marine habitat worldwide. Some polar bear populations are dwindling and they, along with some seal species, may face extinction without the ice cover. Threats to indigenous cultures and existing infrastructure such as the Alaskan oil pipeline are intensifying as a result of melting permafrost.



Average sea levels rose between 1/3 and 2/3 feet over the course of the 20th century. Worldwide sea level is projected to continue to rise as a result of glacial melt plus thermal expansion of ocean waters. The IPCC estimates that sea level rise this century of 20 inches is likely, and 37 inches or more is possible.[12] These coastal infringements on such a large scale could lead to not only significant environmental and ecosystem disturbances, but also major population displacement and economic upheaval.

A recent IPCC report warns that, without changes, within decades climate change could cause hundreds of millions of people to suffer water shortages and tens of millions, especially those in coastal areas, to be flooded out of their homes annually. By 2080, hundreds of millions could starve. [AP, 3/11/07]

While scientists continue to analyze the timing and consequences of expected changes, they agree that we now know enough to warrant immediate action to address the risk of climate change.

United States

The United States, with 5% of the world's population, is responsible for nearly 25% of the world's greenhouse gases and emits 19.9 tons of CO_2 per person, the highest per capita in the First World

A recent Union of Concerned Scientists article[13] indicates that climate stabilization requires a reduction of GHG emissions from the industrialized nations to an average of 70 to 80 percent below 2000 levels by 2050. The authors calculate the amount of cumulative GHG emissions that this reduction implies and indicate that under this success scenario the United States would have a cumulative emissions budget ranging from 160 to 265 gigatons (Gt) CO_2 equivalent (eq) for the period 2000-2050, of which approximately 45 $GtCO_2eq$ has already been emitted. "To meet this minimum target, starting in 2010 the United States must reduce its emissions, on average, approximately 4 percent per year (equivalent to an average absolute reduction of approximately 0.16

[12] The last time the Earth was 4 or 5 degrees warmer – 3 million years ago – there was no ice in the Arctic and sea levels were 80 feet higher. [Hansen/NASA, 2/26/07; NRDC, 2007]

[13] "How to Avoid Dangerous Climate Change," Amy Lynd Luers, *Catalyst: The Magazine of the Union of Concerned Scientists,* Vol. 6, No. 2, Fall 2007, pgs. 2-4.

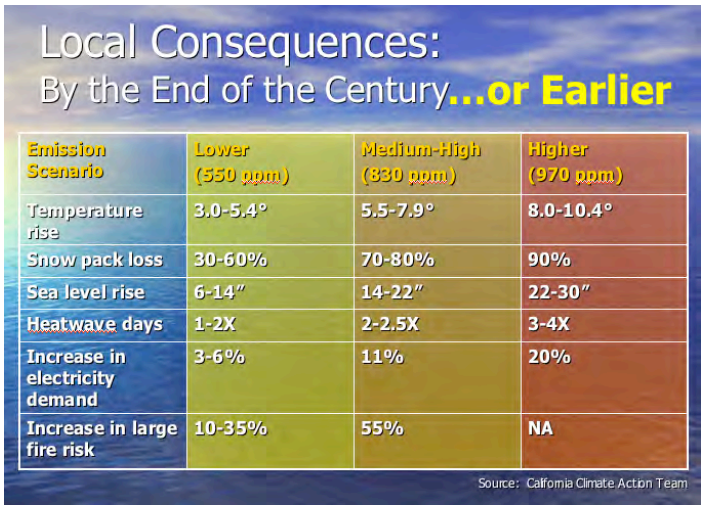
$GtCO_2eq$ per year, or about 2 percent of current levels)." Delay in this level of reduction would necessitate much sharper cuts to remain within this GHG emission budget.

The article goes on to analyze seven comprehensive climate policy proposals that are currently under consideration by the U.S. Congress. Of these, only two fall within the GHG emission budget suggested by the authors and each of these are at the top end of the range.

As U.S. national policy lags behind the increasingly urgent requirement to severely curtail GHG emissions, the need for state and local action becomes ever more critical.

California

California is the 12th largest greenhouse gas emitter in the world, causing 2% of the world's global warming pollution.



Emission Scenario	Lower (550 ppm)	Medium-High (830 ppm)	Higher (970 ppm)
Temperature rise	3.0-5.4°	5.5-7.9°	8.0-10.4°
Snow pack loss	30-60%	70-80%	90%
Sea level rise	6-14"	14-22"	22-30"
Heatwave days	1-2X	2-2.5X	3-4X
Increase in electricity demand	3-6%	11%	20%
Increase in large fire risk	10-35%	55%	NA

In 2005, California's Governor directed the California Environmental Protection Agency to evaluate the impacts of climate change on California. The study projected impacts for California based on a range of potential scenarios (temperature increases of 3 degrees F to 10.4 degrees F by 2100). The following are among the numerous serious identified impacts on California if the target reduction levels are not timely achieved:

- 80% **loss in Sierra snow pack** by 2100, and 40% loss by mid-century (creating crises for water for 37.5 million Californians to drink and wash with, as well as harming agricultural irrigation and clean, affordable hydroelectric power production)
- 1 - 3 foot **sea level rise** affecting California's open coast and estuaries, stressing existing infrastructure, marine life and habitats
    - **Delta levee breeches** from fast Sierra spring runoffs combined with rising sea levels likely to cause flooding that would **jeopardize the north-south movement of water** to the drier climates of Southern California
- 70 **more extreme heat days** per year, increasing rates of heat stroke and doubling summer mortality rates by 2050 (IPCC 2004), and increasing electricity demand due to increased use of air conditioning (California experienced a record-breaking heat wave in July 2005 with temperatures higher and lasting longer than anything in recorded weather data, which goes back 57 years)
- 80% **more "likely ozone" ("Bad Air") days,** with public health impacts (asthma and other pulmonary diseases, especially for the elderly, the young, and those who work outdoors)

- Twice the **drought** years
- 55% **more large-scale wildfires statewide** by 2100, and 35% more by mid-century
- Increased Mosquito breeding and related **diseases** (e.g. West Nile Virus)
- Temperature-related changes put premiere agriculture, dairy, wine, ski and tourism **industries at risk** ($30 billion in impacts on agriculture alone are projected by Farm Bureau, mostly due to changes in the chill hours required per year for cash crops)[14] [15] [16]

Businesses that face risks like these don't debate how big the risk might prove to be; they manage the risk, such as through insurance. California has recognized that the risk management tool available to us is to take policy action to begin to reduce our emissions profile in every cost-effective way we can, including adopting mandatory, enforceable limits on how much carbon can be released into our air as part of a multi-sector cap and trade system.

Local Impacts – the Stakes are High for Menlo Park

Climate change is a global problem influenced by an array of interrelated factors, and requires federal and international efforts. Yet, there are serious impacts to the Bay Area and Menlo Park that demand immediate local action to support the newly mandated State targets. The success of many implementation measures will ultimately hinge on actions at the local community level.

Without early efforts by all sectors of the economy, at all levels – starting locally in Menlo Park and regionally in the Bay Area – adequate progress will not be made in time to achieve the necessary 80% reduction level by 2050.

Most of the impacts projected in state reports will also significantly impact Menlo Park, such as more frequent heat waves, worsening air quality, increased fire risk, impacts on plants and vegetation. However, two of the most dramatic impacts on Menlo Park will be sea level rise and loss of Hetch Hetchy drinking water.

Sea Level Rise Harm to Menlo Park

The San Francisco Bay Area Conservation Commission has modeled the impact of a sea level rise of 3 feet on the Bay Area. As shown in the map to the right, water would largely cover and reach over Highway 101, inundating:

- The **entire Belle Haven neighborhood**, displacing approximately 3,000 residents

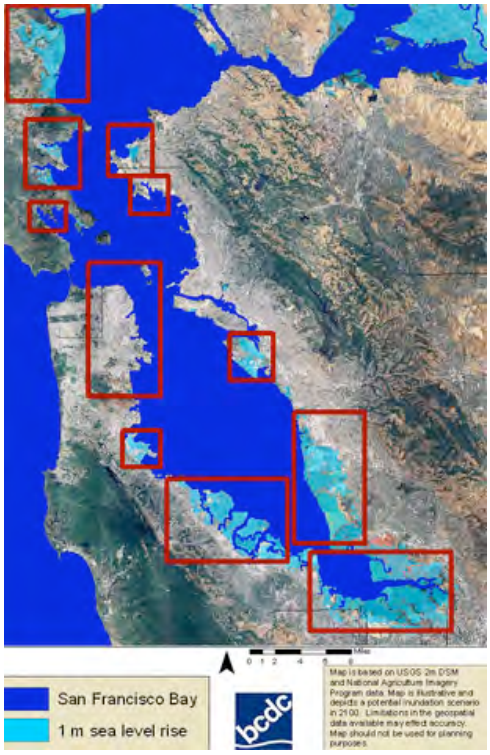
[14] Brown, S et al, Global Climate Change, CEC Report, March 24, 2005 Publication CEC-600-2005-007, p. 5

[15] Union of Concerned Scientists 2004 Study "Climate Change in California: Choosing Our Future,, a Summary of Emissions Pathways, Climate Change and Impacts on California" In Proceedings of the National Academy of Sciences, 101:34:2004.

[16] CEC Report on Climate Change, June 2005, Susan Brown et al., fns 13-21.

- Most of **Menlo Park's industrial/office parkways**, which provide a significant portion of our City's tax base
- The **West Bay Sanitary District's water treatment plant** which sits near sea level in the lowland bay-side marshes to the east of Bayfront Park
- **All major Bay Area airports** would be affected, including the entirety of the Oakland International Airport, and much of San Francisco International and San Jose Airports
- **Many sections of Highway 101** on the Peninsula would be inundated, seriously harming commerce for the entire region.

These impacts would be exacerbated by storm surges at high tide. What had been considered a 1-in-100 year flood for the San Francisquito Creek could be expected to occur on a 1-in-10 or at least a 1-in-20 year basis. Also, **salt water intrusion** as well as **erosion** and potential **liquefaction** damage to buildings, all expected with projected sea level rise, would pose additional harms for Menlo Park area properties and the environment. The San Francisco Bay Conservation and Development Commission (BCDC) is urging a process of exploration of adaptation measures to protect against impacts that may already be unavoidable given that CO_2 already emitted to date will persist for 50 – 100 years even if strong reduction measures begin immediately.



- **Catastrophic Impact on Menlo Park's Drinking Water**

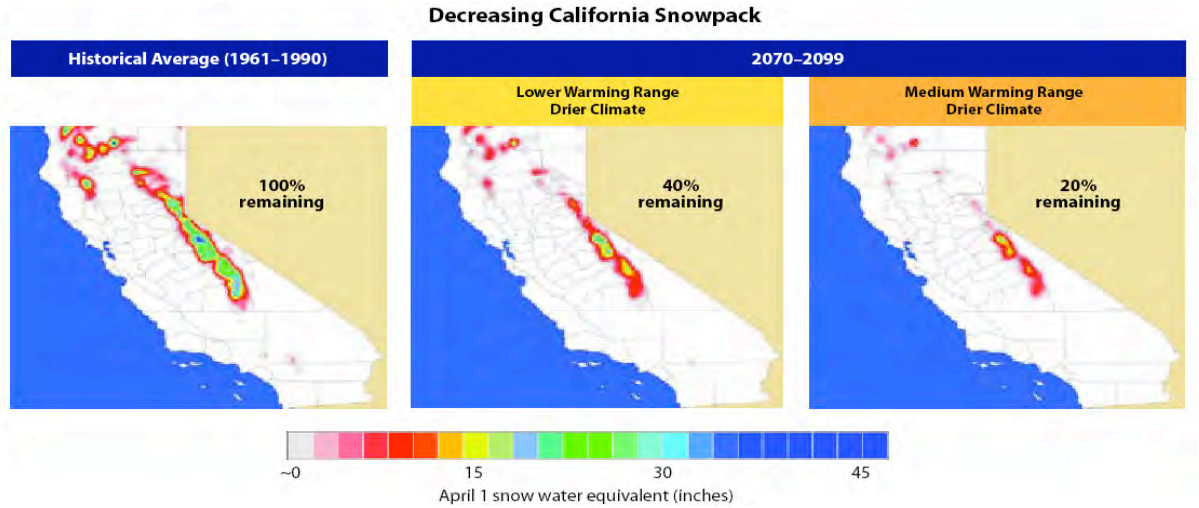
  Warmer average temperatures cause more winter precipitation to fall as rain instead of snow, shortening the winter snowfall season and accelerating the rate at which the snow pack melts in spring. Not only does this increase the threat of spring flooding in the Central Valley, it will decrease "storage capacity" due to reduced Sierra summer snow pack. Sierra snow pack has already reduced by 10% since 1990 (compared to historical 1961 – 1990 levels). The State projects it to continue to diminish, and by as early as 2070 reach levels between 60 - 80% lower than historical averages. [17]

The Sierra snow-pack provides approximately 80% of California's annual water supply. It is the origin of the Tuolumne River which is the source for Hetch Hetchy drinking water on which Menlo Park, as well as most of the San Francisco regional water system relies for potable water. Diminished snowpack will also significantly decrease water

[17] Provided by Union of Concerned Scientists for the California Climate Action Team Report of 2006

availability for agricultural irrigation and threaten clean, affordable hydroelectric generation.

Given that climate change has local repercussions and effects on weather, water resources, ecosystems, public health, infrastructure stability, and economic vitality, Menlo Park and other local governments have a vested interest in mitigating the amount of greenhouse gases being produced by their communities.



In addition, in light of official state policies, “lead agencies” under CEQA are under growing pressure to analyze the GHG emissions of their projects and any resulting impacts related to climate change. In April 2007, for example, the California Office of the Attorney General joined three environmental organizations in suing the County of San Bernardino under CEQA, alleging that the county had not adequately evaluated the climate change impacts of its newly approved general plan. Although no state agency has yet published guidance for analyzing a project’s climate change impacts under CEQA, the Association of Environmental Professionals (a statewide nonprofit organization with over 1600 members), recently produced a useful white paper titled “Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA documents” (June 29, 2007, M. Hendrix and C. Wilson), offering a set of eight alternative approaches for lead agencies to consider using in analyzing climate change impacts in their CEQA documents. Thus, local climate change planning and action not only mitigates physical risks such as fire, population destabilization, and cessation of businesses critical to the economy, it also helps manage the risk of potential CEQA and other litigation against the City.

D. Reasons for Hope

This country has always risen as a world leader in times of crisis. It is time for our nation to take its place in leading our neighboring nations in the journey to solve the climate crisis. Former Vice President Al Gore, speaking at the Clinton Global Initiative meeting in September 2007, called for a global “Marshall Plan” to solve the potential disastrous impact of climate change on the world.

American and world history present examples of seemingly insurmountable challenges that have been addressed successfully by broad, concerted action.

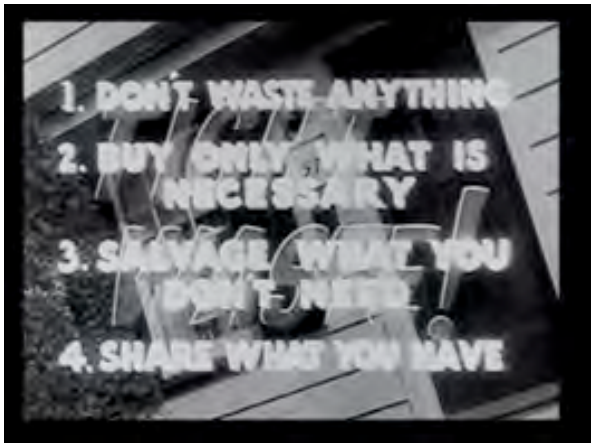
World War II Example

In the 1930s and 1940s the peoples of the world faced an unprecedented crisis. The combination of modern technology, economic dislocation and resource scarcity impelled several totalitarian regimes to contend for global hegemony. Nations fell, vast areas were conquered, and hundreds of millions of people were subjected to the miseries of war, destruction of cities and farmland, disease, starvation, and loss of liberty.

The United States was impacted by the decrease in global trade and then the conquest of long-time allies. Shipping lanes were attacked and closed. Yet, initially, the country maintained a formal state of neutrality and defense funding was a low national priority.

The Japanese attacks in December 1941 and the declaration of war by the other Axis countries galvanized the American people. The American way of life was transformed in response to this national and global crisis. In order to support the war effort industrial resources were rapidly redirected. In 1941 the US automobile industry produced 3 million passenger vehicles. Over the next four years fewer than 350 passenger vehicles were produced. Factories were converted to production of armaments (aircraft production increased from 3,600 in 1940 to 96,000 in 1944), and the allocation of agricultural and industrial resources was managed by the national government.

The American consumer (then known simply as the American citizen) was asked to sacrifice. Many consumer goods, including staples such as coffee and sugar, were either unavailable or severely rationed. Salvaging and recycling, as well as home “victory gardens,” were strongly encouraged through public education and in the media. Women entered the workforce in vast numbers to replace the 16 million Americans in the armed forces, triggering a long-term shift in lifestyle. Bond drives to fund the war were constant and public support was substantial. While these efforts were initiated and managed on a national basis, they were largely implemented on a local level. The recent Ken Burns’ miniseries “The War,” provides us with inspiration from that time.



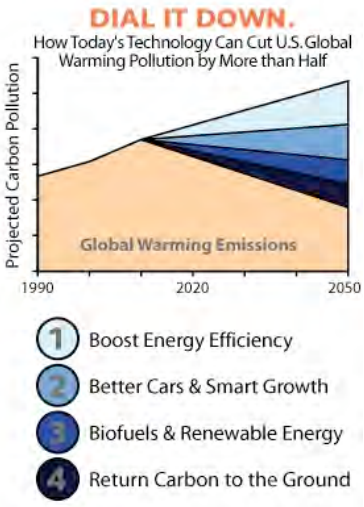
World War II era newsreel footage from "The War," a PBS documentary by Ken Burns

World War II era poster

Solutions Are Currently Available

The public response to the global crisis posed by World War II is an indication that the citizens of the United States and the peoples of the world are capable of responding in concert to a global crisis that imperils safety, security, and lifestyle. A response and effort of this magnitude is required to blunt the escalation of human-caused greenhouse gas emissions and then reduce and offset these emissions to such an extent that sustainable human habitation can be assured throughout currently inhabited areas.

> "One basis for hope is that, realistically, we are not beset by insoluble problems. While we do face big risks, the most serious ones are not ones beyond our control, like a possible collision with an asteroid of a size that hits the Earth every hundred million years or so. Instead, they are ones that we are generating ourselves. Because we are the cause of our environmental problems, we are the ones in control of them, and we can choose or not choose to stop causing them and start solving them. The future is up for grabs, lying in our own hands. We don't need new technologies to solve our problems; while new technologies can make some contribution, for the most part we "just" need the political will to apply solutions already available. Of course, that's a big "just." –Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed*



"We have solutions in hand right now to drastically cut global warming pollution. Act now–put clean, innovative energy technologies to use, and enact policies to encourage their rapid, widespread adoption–and we can stop global warming in its tracks. Instead of nearly doubling U.S. global warming pollution by 2050, we can cut it by more than half using today's technology. And with the proper incentives in place, even more innovative solutions will emerge along the way, leading to even bigger reductions." --Natural Resources Defense Council

The United States has already been successful in responding to numerous discrete environmental crises. As an example, under the 1990 Clean Air Act, a successful cap and trade system was implemented for sulfur dioxide (SO_2) emissions as a way to combat acid rain which was beginning to devastate Northeastern forests and water supplies. The Clean Air Interstate Rule issued in 2005 further regulated both SO_2 and NOx. The market cost for SO_2 allowances was much lower than expected and in the 1990s, the program achieved 100% compliance in reducing SO_2 emissions. The long-term costs of the program were also far below early projections and long-term health care savings are anticipated at $85 billion to $100 billion[18]. While these results are exemplary, as were efforts to reduce chlorofluorocarbons (CFCs) and reverse the ozone hole, these efforts addressed problems that could be mitigated through a single concerted initiative, whereas the climate crisis requires multi-dimensional, multi-sector efforts on a broad, international sustained, and rapid basis.

The states and mayors have emerged as national leaders in the fight to manage climate change in the midst of our national involvement in the war in Iraq. The US federal government has thus far been slow to respond on a national level to the climate crisis. Indeed, rapid action at state and local levels has emerged in advance of a concerted national response. With support from both its Governor and the public, California is in the forefront acting in advance of a concerted national policy, as are several other states.

Economic Benefits of Acting Now

In addition to growing demand for action to address climate change as the right thing to do, action is also expected to be good for our economy. The Governor's Climate Action Team of experts found that the overall economic effect of California's climate change emission strategies would be to create $4 billion in additional income and 83,000 new jobs for Californians by 2020. [19] Currently, California sends over $30 billion out of state every year to buy fossil fuels, the primary cause of our State's global-warming pollution. That is $2,500, on average, from every California family.[20] Reducing global-warming pollution through energy efficiency, renewable energy, smart growth and improved transit and super efficient cars will bring that money back home to our communities.[21]

Economic benefits of such actions have previously been proven through California's early efforts to set building and appliance energy efficiency standards, which saved businesses and individuals $56 billion dollars in energy costs between 1975 and 2003.[22] The Governor's Climate Action Team of experts reported that the overall economic impacts of meeting Climate Change targets are expected to be positive, without adversely affecting the economy.[23]

[18] US EPA, www.epa.gov/CAIR/basic.html
[19] Climate Action Team Report, Cal EPA, March 2006, p. 84 www.climatechange.ca.gov
[20] San Francisco Chronicle, April 11, 2006, p. B-7
[21] San Francisco Chronicle, April 11, 2006, p. B-7
[22] Climate Action Team "Frequently Asked Questions", April 3, 2006, p. 2
[23] Climate Action Team Report, Cal EPA, March 2006, p. 84 www.climatechange.ca.gov

Local communities such as Menlo Park can experience great benefit, and avoid substantial long-term costs by organizing comprehensive efforts to address climate change right now. With its unique confluence of venture capital funds, high technology firms, and world class educational institutions, Silicon Valley and Menlo Park can reap great financial rewards from the development of clean technologies and enterprises.

Menlo Park as a community has the opportunity to become a role model for what is possible when a small city with a forward-thinking and determined population commits to long-term informed action toward addressing this serious and far-reaching crisis. By taking rapid and comprehensive steps toward energy conservation and adoption of clean technologies in our commercial, municipal, and residential sectors, Menlo Park can demonstrate a strong commitment to the future, inspire others, and become an attractive home for many of these vibrant efforts. This will also position Menlo Park's businesses well to meet growing international demand for needed solutions.

The Menlo Park Green Ribbon Citizen's Committee members believe that nothing short of an all-out level effort on global, national, state, and local levels will be sufficient for addressing the climate crisis. The proposals submitted within this report are intended to point the way toward a comprehensive local approach that will leave a proud legacy for Menlo Park's leaders and citizens.

E. Recent Efforts to Mitigate Climate Change

Menlo Park is fortunate that it is one of many communities to address the challenge of climate change. Our community has an opportunity to learn from and incorporate into its actions the example of goals established by, and efforts underway in, numerous communities throughout the world. A few of the many examples are described below to help provide context for Menlo Park's path.

International Efforts

In recognition that the effects of climate change are global in nature, and that immediate action is required world-wide, a number of major efforts are underway.

Some examples:

1990 - International Council for Local Environmental Initiatives (now ICLEI—Local Governments for Sustainability) – begins, now 700 member communities
1992 – U.N. Framework Convention on Climate Change - voluntary goal of reducing emissions from developed counties to 1990 levels by 2000, Earth Summit in Rio de Janeiro.
1997 – Kyoto Protocol - requiring industrialized nations to reduce their collective greenhouse gas emissions 5.2% below 1990 levels by 2012. By 2007, ratified by 175 parties (not USA).
1998 - Intergovernmental Panel on Climate Change (IPCC) - established to assess climate change risks and impacts, and mitigation options, by World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
2007 – EU enforcement of the Kyoto Protocol begins.
2007 - Building Retrofit Program of Clinton Climate Initiative (CCI) – launched to reduce energy consumption in existing buildings, by group among world's largest energy service companies (4), banks (5), and cities (15).
Sources: Pew Center on Global Climate Change www.pewclimate.org; United Nations Framework Convention on Climate Change http://unfccc.int; www.iclei.org

In recognition of their efforts to mobilize global action, both the IPCC (including Stanford professor Stephen Schneider) and former Vice President Al Gore were awarded the Nobel Peace Prize this fall.

Countries that Have signed Kyoto Protocol (green)

National/State Efforts

Although the United States has a mere 5% of the world's population, we produce 25% of the world's greenhouse gases. We are also the world's wealthiest and most innovative economy. As such we are in a unique position: no other country bears a greater responsibility – or possesses a greater capacity – to lead the global response on this issue. Although effective action on climate change clearly also requires international efforts, success will be impossible without strong leadership throughout the United States to significantly reduce our

country's large greenhouse gas footprint. We are one of only three developed nations that has thus far refused to limit its greenhouse gas pollution by adopting carbon caps such as those in the Kyoto Protocol, which calls for a 7% reduction below 1990 CO_2 emission levels by 2012, the target for which Menlo Park aims to strive by virtue of signing the U.S. Mayor's Climate Protection Agreement

Some of the actions taken at the federal level:

1999 - President Clinton signed Executive Order 13123 *Greening the Government Through Efficient Energy Management Principles.*
2002 - President Bush announces a voluntary strategy to reduce the greenhouse gas emission intensity of the American economy by 18 percent by 2012. Because GHG "intensity" measures the ratio of GHG emissions to economic output, analysts believe this strategy will allow *actual* emissions, in absolute terms, to increase 12 percent over the same period.
2005 - U.S. Senate Resolution supported enacting a national mandatory program to "slow, stop and reverse" the growth of U.S. greenhouse gas emissions. However no action was taken by the House or the President and no federal program has yet been implemented.
2007 - Wider national leadership is beginning to emerge, and several bills are currently pending in Congress to adopt carbon caps. US EPA regulations have recently begun being developed (for late 2008) in response to the Massachusetts v. U.S. EPA decision by the U.S. Supreme Court, which in the spring of 2007 held that greenhouse gases are a pollutant subject to EPA regulatory authority.

In the meantime, due to the urgency of a response to climate change, early action in the US has been driven mostly by states, communities, and coalitions of nonprofit organizations, citizens, and businesses, rather than by the federal government. A few examples:

2003 - Regional Greenhouse Gas Initiative (RGGI) - cooperative effort by 9 Northeast and Mid-Atlantic states as the first mandatory cap and trade program for carbon dioxide emissions from power plants; may expand to include other GHGs.

2003- Chicago Climate Exchange (CCX) begins system of binding emissions reduction commitments and trading of allowance credits for all six greenhouse gases between CCX 300 members.

2005 - U.S. Mayors' Climate Protection Agreement is launched. As of October 2007, more than 710 mayors from both political parties and in all 50 states— and with a total citizenry of over 75 million— have formally pledged their communities to meet or exceed the Kyoto Protocol, agreeing to reduce CO_2 pollution to 7% below 1990 levels by 2012. Participating cities include Seattle, New York, Chicago, Miami, Los Angeles, San Jose, San Francisco, Menlo Park and 101 other California cities, and the list is growing rapidly.

2005 - Campus Climate Challenge begins as a project of more than 30 leading youth and environmental organizations; by 2007, working with over 535 local groups to leverage the power of young people on 300 college and high school campuses across Canada and the U.S. to win 100% Clean Energy policies at their schools.

2007 - US Climate Action Partnership (USCAP) alliance of leading corporations (e.g., Alcoa, Caterpillar, General Motors, Johnson & Johnson, PG&E, Shell) and leading environmental groups urge the federal government to take bold action, proposing a cap and trade system to cut greenhouse gas emissions 60% to 80% from current levels by 2050, with interim targets at 5, 10, and 15 years.

2007 - Western Regional Climate Action Initiative - governors of Washington, Oregon, California, Arizona, and New Mexico establish aggregate GHG emissions reduction goal of 15% below 2005 levels by 2020.

California Efforts

By accepting the scientific consensus and taking strong recent policy actions to address the climate crisis, California is continuing its long history of leadership through example of legislation and results to other states and countries. Past leadership actions to promote energy conservation and air pollution control include:

1967 - *California Air Resources Board* created (merger of California Motor Vehicle Pollution Control Board, Bureau of Air Sanitation). Federal Air Quality Act of 1967 is enacted, allowing waiver for CA to set and enforce its own emissions standards for new vehicles – and to adopt the first in the nation auto emission standards for HC and CO.

1978 - *Energy Efficiency Standards for Residential and Nonresidential Buildings* - instituted to save energy. Along with Appliance Efficiency Regulations, these have saved an estimated $56 billion in electricity and natural gas costs since 1978, $23 billion additional savings by 2013.

2002 - *California Clean Cars Law AB 1493 (Pavley)* – Requires the State Air Resources Board to develop and adopt regulations that achieve the maximum feasible reduction of greenhouse gases from vehicles primarily used for non-commercial transportation by January 2005.

2004 - *Green Building Initiative* created by Governor Schwarzenegger to reduce electricity use by government and private commercial buildings 10% per square foot by 2010, 20% by 2015 (Executive Order #S-20-04).

2004 - *California Clean Cars Law* (AB1493) requires increasingly strict standards for global warming emissions from new passenger cars and light trucks that phase in from 2009 to 2016. California Air Resources Board (CARB) approves implementing regulations to use existing technologies to reduce greenhouse gas emissions from new cars and trucks by up to 18 percent by 2020, and 27 percent by 2030. This is an update from the 2002 legislation.

2004 - *California Solar Initiative (later expanded in 2006 into "Million Solar Roofs")* - a joint program of the CPUC and the Energy Commission - expands use of solar energy by making it more affordable for existing residential homes and existing and new commercial, industrial, and agricultural properties through rebates funded by all Californians.

2005 – Governor Schwarzenegger, "recognizing that global warming will impose compelling and extraordinary impacts on California," sets greenhouse gas emission reduction targets for the state (Executive Order #S-3-05), codified into law in Assembly Bill (A.B.) 32 (Pavley/Nunez) – the Global Warming Solutions Act of 2006 as follows:

- By 2010 – reduce to year 2000 CO_2 emission levels
  (60 million ton emission reduction; 11% below business as usual)
- By 2020 – reduce to 1990 CO_2 emission levels
  (174 million tons emission reductions; 25% below business as usual)
- By 2050 – 80% below 1990 CO_2 emission levels

Along with additional Executive Orders, this is expected to save $100 million/year. Climate Action Team established to make more detailed recommendations for Climate Action Plan to achieve these reduction levels.

2006 – *California Global Warming Solutions Act* (AB 32) – requires reduction of California emissions to 1990 levels by 2020, 25% below levels forecasted.
2006 – *Million Solar Roofs Initiative* (SB1) with goal to create 3,000 megawatts of new, solar-produced electricity by 2017.

2006 - *Greenhouse Gas Emissions Performance Standard* Act (SB 1368) requires that new long-term financial investment in power plants that supply electricity around the clock made on behalf of California customers must be in clean energy sources (emissions no greater than the cleanest combined cycle natural gas fired plant).

2007 - *Solar Water Heating and Efficiency Act of 2007* (AB 1470) which provides incentives to attain the goal of installing 200,000 solar water heating systems in the state by 2017.

2007 – California Air Resources Board (CARB) files lawsuit on November 8 against the U.S. Environmental Protection Agency (U.S. EPA) over the failure to act on California's request for a waiver to regulate greenhouse gas emissions in new vehicles (implementing the 2004 California Clean Cars Law AB1493, which would result in 30 million tons per year of reductions by 2020–the single biggest measure identified in the Governor's Climate Action Team's 2006 Plan). Until this long pending waiver request is granted, continued delays mean the climate benefits from this important regulation may not be able to achieve the full 30 million tons per year level by 2020 as was assumed within the Climate Action Team's original report.

A.B. 32 Implementation Still Years Off: The California Air Resources Board (CARB) is charged with monitoring the regulated sources of greenhouse gas emissions under A.B.

32 in order to reach California's required greenhouse gas reduction targets. The Governor's Climate Action Team has issued an initial report and identified means to achieve targets, to help coordinate state climate policy. Early Action Items have been identified (including the Low Carbon Fuel Standard and diesel anti-idling regulations) but will not begin to be implemented until January 1, 2010, with the full range of A.B. 32 measures not becoming effective until 2012.

Bay Area Efforts

1997 – Bay Area Green Business Program begins, by Association of Bay Area Governments (ABAG), Bay Area public agencies in collaboration with US EPA, Cal EPA Department of Toxic Substances Control and the business community.

2001 - Sustainable Silicon Valley (SSV) begins, as a way to manage the environment on a regional basis through business and government collaboration, led by the Silicon Valley Leadership Group, California Environmental Protection Agency and political leaders, Silicon Valley Environmental Partnership. Some of the largest businesses and governmental agencies are among the 135 members by 2007, including SUN, Cisco, Intel, eBay, SF International Airport, City of San Jose. From 2000-2005, CO_2 emissions of member organizations declined 24 percent since 2000—more than three times the overall Valley decline of 7%.

2001 – San Mateo County Sustainable Building Policy requires compliance with LEED green building standards for new construction and additions to existing County buildings and facilities.

2004 – San Francisco adopts the Bay Area's first Climate Action Plan with Department of Environment responsible for implementation.

2005 - The San Mateo County Board of Supervisors unanimously resolves to reduce carbon dioxide emissions by 10% by 2010 and to support the Sustainable Silicon Valley CO_2 Initiative.

2006 – Sustainable Silicon Valley establishes goal to reduce regional CO_2 emissions 20% from 1990 by 2010.

2006 – San Mateo County RecyleWorks education project receives the state's highest environmental honor from Governor Arnold Schwarzenegger.

2007 – San José Mayor's Green Vision is adopted unanimously in October, emphasizing Clean Technology, Sustainability, and Green Mobility and a roadmap "to reduce the carbon footprint of the tenth largest city in the nation by more than half."

San José Mayor's Green Vision

Green Vision Goals

Within 15 years, the City of San José in tandem with its residents and businesses will:

1. Create 25,000 Clean Tech jobs as the World Center of Clean Tech Innovation
2. Reduce per capita energy use by 50 percent
3. Receive 100 percent of our electrical power from clean renewable sources
4. Build or retrofit 50 million square feet of green buildings
5. Divert 100 percent of the waste from our landfill and convert waste to energy
6. Recycle or beneficially reuse 100 percent of our wastewater (100 million gallons per day)
7. Adopt a General Plan with measurable standards for sustainable development
8. Ensure that 100 percent of public fleet vehicles run on alternative fuels
9. Plant 100,000 new trees and replace 100 percent of our streetlights with smart, zero emission lighting
10. Create 100 miles of interconnected trails

Mayor Chuck Reed, San José October 5, 2007

Sources: Pew Center on Global Climate Change *www.pewclimate.org*; United Nations Framework Convention on Climate Change *http://unfccc.int*; www.iclei.orgwww.usmayors.org, http://coolcities.us, www.whitehouse.gov, www.epa.gov, www.pewclimate.org, www.rggi.org, www.westernclimateinitiative.org, www.chicagoclimatex.com, www.climatechange.ca.gov, www.solutionsforglobalwarning.org, www.calepa.ca.gov, www.gosolar.ca.gov, www.energy.ca.gov, stopwaste.org, www.gov.ca.gov, www.arb.ca.gov, www.sustainablesiliconvalley.org, www.recycleworks.org

Menlo Park Efforts

The City of Menlo Park has implemented a number of sustainability measures in recent years, providing an example of effective measures and addressing the small portion of the city's overall estimated baseline of greenhouse gas emissions due to municipal operations.

Menlo Park's Environmental Program is supported by staff that focuses on environmental and sustainability issues, and by citizen volunteers comprising an Environmental Quality Commission (formerly known as the Environmental Beautification Commission) that has focused on preserving the city's urban forest and the aesthetics of its properties, reducing waste through conservation and recycling, improving air and water quality, and providing advice about sustainability.

City efforts to reduce greenhouse gas emissions include[24]:

- Online educational information, such as
    - Construction and Demolition Recycling Requirements
    - Eco-Friendly Landscaping Design and Maintenance Tips
    - Energy Efficiency tips and links to additional sources
- Creation of a vision to encourage and support safe bicycle travel
    - Comprehensive Bicycle Development Plan
    - Bike to Work Day
    - Safe Routes to School
- Energy conservation measures
    - Energy Audit in 2004
    - Retrofit of heating, air conditioning, ventilation (HVAC) systems in municipal buildings
    - Solar hot water system for new Burgess pool
    - Install insulation; use of "cool" roofing materials
    - Replace windows
    - Replace traffic lights and street lights with higher efficiency bulbs
    - Operates free shuttles for Caltrain, shoppers, and mid-day
- Alternative energy measures
    - Plans to install solar photovoltaic (PV) system on City maintenance facility
    - Purchase alternative fuel vehicles for City fleet
- Water conservation programs
    - Residential clothes washer rebate program
    - Commercial pre-rinse spray-valve program (food industry)
    - Water Wise Kits for schools

[24] Indicators for a Sustainable San Mateo County, years 2002-2007

    - High efficiency toilet/urinal replacement program
    - CD about plants for water-efficient landscaping
    - Centralized computer controlled irrigation systems in city parks
    - Xeriscape Ordinance, for certain development projects

- Green building
    - Distributes San Mateo Countywide Sustainable Buildings Checklists to visitors to Community Development department
    - Displays materials about green building in public lobby
    - Requires construction and demolition salvage and recycling for larger development projects

- Recycling and waste reduction
    - Promotes recycling, achieving one of highest residential recycling participation rates in the county, increasing recycled tonnage, decreasing landfill disposal tonnage.

During the past year, Menlo Park has promoted a number of “Menlo Park Goes Green” programs. These include “Green Alley,” a green-tech/clean tech business development initiative, resulting in the high profile electric sports car company Tesla Motors selecting Menlo Park as the site for a major showroom. Two Downtown Menlo Park Goes Green Block Parties and a parallel GRCC-sponsored “Green Expert Series” were held this August to highlight local organizations addressing climate change, alternative fuel vehicles, and to encourage patronage of local restaurants.

Expansion of the city’s major climate change efforts accelerated as a result of community input during the City Council’s community brainstorming session in December 2006, reinforced by a presentation made by former Mayor and current County Planning Commissioner Gail Slocum on behalf of the Sierra Club Cool Cities program. These citizens urged the city to consider taking prompt action to mitigate global warming.

By April 2007, the City Council unanimously approved establishing a GHG emissions reduction goal, measuring a GHG baseline for comparison, and signing the US Mayors’ Climate Protection Agreement, thereby joining hundreds of communities around the country to tackle the challenge of climate change. The Mayor discussed with the Council and announced the formation of a Green Ribbon Citizens’ Committee effort to research best practices in addressing climate change and the local level and make recommendations.

Additional information regarding how “Menlo Park Goes Green” has been prepared by Mayor Kelly Fergusson and can be found in the Appendix.

3. MENLO PARK GREEN RIBBON CITIZEN'S COMMITTEE OVERVIEW

On February 13, 2007 Menlo Park Mayor Kelly Fergusson called on the community to convene a volunteer task force, the Menlo Park Green Ribbon Citizen's Committee (GRCC), to research and recommend measures the City and community can take to greatly reduce greenhouse gas emissions. At subsequent spring 2007 Council meetings, City Council voted unanimously for Menlo Park to sign the Mayors' Climate Initiative and join the Cool Cities program, thereby establishing initial community-wide GHG reduction targets to address climate change.

The GRCC's initial meeting on March 14, 2007 was publicly noticed and featured in an *Almanac* pre-meeting article, resulting in over 65 community members in attendance. In a facilitated brainstorming format with breakout sessions, participants shared their concerns about the climate change crisis and supported the viewpoint that community and local government action have a vital role to play in reducing greenhouse gas emissions and addressing problems that emerge from anticipated deleterious changes to the climate. Given the resource limitations of City Staff, the GRCC was envisioned to serve as a 'force multiplier,' by marshalling broad-based volunteer talent within the Menlo Park community to address the climate crisis.

After informational presentations, the bulk of this formative meeting was devoted to creating a sense of community among the diverse participants and conducting the first in a series of brainstorms to elicit ideas to reduce greenhouse gases. This first GRCC plenary session, and several others, was videotaped by one of our volunteers.

Additional full GRCC brainstorms were subsequently held, including a session led by IDEO, a preeminent innovation and design firm based in Palo Alto. These brainstorming sessions yielded hundreds of ideas for further investigation by GRCC participants.

A. Organization and Membership

The GRCC organized itself into five topical working groups, or subcommittees, with voluntary membership based upon the expressed interest of participants:

- Communications, Education, and Outreach
- Energy and Waste Reduction
- Green Business Development
- Land Use and Building
- Transit and Transportation

Each subcommittee utilized the substantial GRCC brainstorm lists and developed its own plan to determine which items to review in depth.

The GRCC has met on a semi-weekly basis since inception. Full GRCC meetings have generally included talks by one or more experts on specific climate change related topics as well as a working session for either the full body or subcommittees.

Several well attended sessions presented prominent speakers, including Stanford climate scientist and biological sciences professor Stephen Schneider (member of the Nobel Prize winning IPCC, and Co-Director, Center for Environmental Science and Policy), Winston Hickox (currently chairing A.B. 32 Market Advisory Committee; former Secretary of Cal-EPA), Stanford Environmental and Resource Economics professor Lawrence Goulder (Vice Chair, Market Advisory Committee), and Stanford management science and engineering professor James Sweeney (Director of the Precourt Institute for Energy Efficiency).

Additional speakers have included, among others:
Clark Kepler, President, Kepler's Books
Kevin McCarthy, Executive Director, South Bayside Waste Management Authority
Micah Lang, Program Officer, ICLEI – Local Governments for Sustainability
Walt Hays, Chairman, Palo Alto Green Ribbon Task Force

An all-volunteer coordinating committee convened bi-weekly to organize GRCC meeting agendas and logistics, provide guidance for participants and subcommittees in their research efforts, and develop citizen engagement processes as well as templates to enable the staging and prioritization of proposals.

Patterned on the successful 2006 Palo Alto Green Ribbon Task Force (PAGRTF), the Menlo Park GRCC was intentionally convened as an informal body to enable in-depth discussion among broad community constituencies as well as flexibility in meeting frequency for smaller groups. The membership is diverse in many respects, and includes local business owners, environmental activists, real estate developers and realtors, government administrators, technology entrepreneurs, environmental scientists, utility employees, landlords, teachers, and retirees. More than 120 individuals have attended one or more GRCC related meetings and more than 40 participated in developing the 130 detailed written proposals included in this report.

Every GRCC subcommittee, and coordinating committee meeting has been open to any community member to attend, and plenary sessions of the GRCC were noticed publicly by the City Clerk (in a manner approved by the City attorney that enabled City Council members to participate). Transparency of dialogue and decision making is maintained by use of web-based opt-in Yahoo Group lists for the GRCC, subcommittees, and coordinating committee as well as the posting of minutes and work products to the Yahoo Group websites to facilitate on-line collaboration as was also successfully done in Palo Alto.

B. Results to Date

As the GRCC moved forward with its climate change focus, participants utilized their evolving methods to collaborate in developing cohesive proposals for the 2007-2008 City budget cycle and then for the longer-term recommendations that comprise the remainder of this report. An early plenary meeting featured a briefing by Walt Hays, Chair of the PAGRTF, who shared lessons they learned in 2006. Another early GRCC meeting featured a briefing by City staff about City efforts to date and also opportunities for new initiatives. Staff stayed for an interactive brainstorming session with individual GRCC subcommittees.

Interim Recommendations

In April 2007, shortly after the GRCC's formation, the Mayor requested input from the GRCC for the 2007-2008 City budget, which was to be finalized in June 2007. Subcommittee representatives continued to meet with a number of Menlo Park City staff, including then-Acting City Manager Kent Steffens, to deepen our understanding of City needs as well as the budget process. These meetings established a fruitful collaboration with City staff, most notably our staff liaison, Environmental Program Coordinator Dianne Dryer. This ongoing interaction with staff has served the GRCC well in developing actionable proposals.

The GRCC submitted a series of low cost, high impact recommendations for City Council to consider for inclusion in the budget. Fourteen of these measures were budgeted by City Council in their June 19, 2007 session, including:

- Residential solar permit fees – to be eliminated.
- City staff, local architects and builders will receive training on the LEED green building standards
- Conduct an energy audit of city facilities to identify opportunities for energy and cost savings
- Add more trees to the reforestation program, and more bicycle racks at the Caltrain station
- Conduct a town hall meeting to review the GRCC recommendations

Staff identified that several of the recommendations were already in the budget, including:

- Evaluating solar heating at the Belle Haven pool
- Incorporating bike access into the design of the Willow road 101 overpass
- Improving safety for kids walking and biking to school.

See the Appendix for the GRCC Letter to City Council and outcome of each recommendation.

Development of Final Recommendations

From June to October 2007, each GRCC subcommittees prepared and vetted a series of actionable proposals for the City government and community to reduce greenhouse gases. In late October 2007 a citizen engagement process, open to all attendees, was conducted to rank and prioritize the proposals based on perceived impact, importance, and feasibility. Thirty-three participants were present for this process, which utilized electronic instant voting on a scale of 1 to 10 assessing the importance as well as feasibility of each of the 130 proposals prepared the subcommittees and reviewed in advance by participants. (See detailed description in "Highest Priority GRCC Recommendations" section. Based on this session, 32 proposals were ranked as highest priority in terms of importance/impact and feasibility. These are recommended for immediate action, and are highlighted in this document. Each of the 130 reviewed proposals is included in the section Subcommittee Reports.

C. GRCC Core Principles

"*Science is not enough, religion is not enough, art is not enough, politics and economics are not enough, nor is love, nor is duty, nor is action however disinterested, nor, however sublime, is contemplation. Nothing short of everything, will really do*." – Aldous Huxley, *Island*

Research conducted by the GRCC membership affirms that there is no single set of two or three initiatives that can resolve the climate crisis, whether on a global or local level. Comprehensive approaches are required that address the full spectrum of greenhouse gas sources through a combination of actions. Yet, there are specific focal points, for both short-term action and long-term initiatives that will make a substantial difference in reducing greenhouse gas emissions.

Audacious Goals

First and foremost, the GRCC believes that the adoption of overarching, audacious goals is vital to focus the efforts of Menlo Park in addressing the climate crisis. While such goals need to be attainable, they also need to be sufficiently ambitious so that even a shortfall in achieving goals will make a substantial difference.

City Council took a first, important step in this direction by adopting the U.S. Mayors' Climate Protection Agreement in February 2007. This resolution aligns the Menlo Park community with the Kyoto standard, calling for a 7% reduction of greenhouse gas emissions below 1990 levels by 2012.

While the Kyoto Protocol is an admirable standard, it was always intended as a first step. The Union of Concerned Scientists, leading NASA climate scientist James Hansen, California Governor Schwarzenegger and many others call for an 80% reduction in greenhouse gas emissions below 1990 by 2050 (2% average per year) to stabilize the climate and mitigate the most adverse impacts of climate change. We recommend that Menlo Park set similar longer term goals.

Toward this end, **the Menlo Park GRCC supports the adoption of a "climate neutrality" goal for the community by 2030.** Climate neutrality requires a combination of greenhouse gas reduction, carbon sequestration through tree planting and preservation, and offset of remaining net greenhouse emissions by participating in programs with approved energy emission protocols such as PG&E's ClimateSmart™ to invest in forest protection, methane capture, and other measures that neutralize the impact of those emissions. Such an audacious goal will provide great focus to the community, will lead to the development of a climate action plan to organize our efforts, and will enable Menlo Park to join with many other municipalities and institutions in taking this strong stand for the future.

Big Difference Makers

The GRCC's highest priority recommendations include a number of big difference makers that will enable Menlo Park to address the most significant sources of greenhouse gas emissions through a variety of complementary measures.

Conservation

Because conservation is the least expensive and most effective measure to reduce greenhouse gas emissions, the GRCC's recommendations emphasize this critical principle. The importance of this emphasis is strengthened by the fact that energy use and fuel usage in transportation are the primary sources of Menlo Park's greenhouse gas emissions:

- Electricity and natural gas use across the commercial, institutional, educational, and residential sectors is responsible for more than 45% of the greenhouse gas emissions in Menlo Park, or approximately 200,000 tons of CO_2 equivalent per year.
- Transportation is responsible for another 40% of Menlo Park's greenhouse gas emissions.

Conservation in these areas is particularly important, leading the GRCC to recommend initial community efforts that focus on encouraging and rewarding participation in energy efficiency programs sponsored by PG&E as well as by municipal and non-profit entities. Such measures include simple habit changes as well as retrofits and replacements in lighting, heating, air conditioning, passive solar, and appliances. Special focus on natural gas energy efficiency is paramount as it is a fossil fuel and represents a much larger part of the greenhouse gas footprint than does the electricity on PG&E's grid.

With the commercial and institutional energy usage more than twice that of aggregate residential usage, the GRCC also encourages aggressive actions to promote conservation within and by the business community. The GRCC foresees a combination of municipal incentives and community-led public education in action plans that address this sector.

Potentially more challenging will be the very necessary emphasis on reducing greenhouse gas emissions from the transportation sector, a major portion of which is due to the use of single occupancy vehicles. The reasons underlying transit choices are varied and complex. Nevertheless, the GRCC firmly believes that our community cannot shy away from addressing this sector even though it may be one of the most challenging and time-consuming areas in which to effect change.

Education

A major by-product of the GRCC process was our own heightened awareness of the climate change crisis as well as the numerous steps that can be taken to address the crisis. Extending this knowledge throughout our community is a fundamental and practical principle upon which many of our recommendations are based.

Mitigation

Mitigation of greenhouse gas emissions through the use of offsets will also play a vital role in reducing each energy user's impact on climate change. Without drastic changes in lifestyle, energy efficiency coupled with adoption of clean energy generation will continue to result in GHG emissions from the generation of electricity and the burning of fossil fuels for transportation. A wide variety of voluntary offset programs are available to address either specific emission sources (home energy, automotive, air travel, etc) or the full set of emissions (primarily available for individual consumers).

One example is PG&E's new ClimateSmart™ program, launched in mid-2007, which provides a voluntary option for business and residential customers to reduce their impact on climate change (see chart to the right for details). All of its greenhouse gas reduction project investments are monitored using the 'best-in-class' California Climate Action Registry certification protocols. This program offers our city an easy way to make rapid progress toward our GHG reduction goals by receiving an annual accounting of all offsets funded by the contributions of Menlo Park residents and businesses, schools, and faith communities, as well as the City's own facilities.

Carbon sequestration through tree planting and protection is an important form of offset because trees store CO_2 in their roots, trunk and limbs as well as provide habitat and other environmental benefits. Yet California continues to lose over 40,000 acres of forest a year. Menlo Park has a long-standing commitment to protect heritage trees and maintain a healthy urban forest. Several GRCC recommendations address improvements to these ordinances.

A community-wide commitment to climate neutrality will require extensive adoption of offsets to neutralize greenhouse gas emissions that cannot be eliminated through conservation or replaced by clean technologies.

Adaptation

While the emerging response to the climate crisis may be able to blunt the more pessimistic scientific forecasts of harm to habitability, it is likely that adaptation measures will be required. Changes to regional rainfall patterns, the reduction of the Sierra snowpack, and increases in the severity of forest fires are all in process. These climate shifts are likely to result in increased flooding, rise in water level in low lying areas, and constraints on water and power supply in the coming years and decades in our Menlo Park community.

The GRCC has not addressed issues of adaptation in the first phase of our efforts. Yet, we urge City Council and staff to set a timetable for an inventory of risks, the development of local measures, and participation in regional measures to mitigate the potential harms in advance of climate-related disasters.

4. HIGHEST PRIORITY GRCC RECOMMENDATIONS

This Report contains a set of 130 recommendations for actions within the Menlo Park community that will contribute to significant reductions in GHG emissions and an improved quality of life and economy for us and generations to come. With the understanding that this volume of recommendations may be impractical to implement simultaneously, the GRCC worked in stages to determine a set of recommendations to feature in this report as “highest priority.”

The GRCC goal was to tap into the collective intelligence and shared wisdom of our community and to use that in our efforts to reduce GHG emissions and to build a strong collaborative relationship between our City Council, City Staff, and the general public. This collective intelligence and community building leads to a deep understanding of our community; it is a collection of values that people in the community hold – not just their attitudes about various policy choices. This process involves the balancing of these values, and the trade-offs people are willing to make when the values seem to be in conflict. This kind of knowledge can most effectively be gained through meaningful civic engagement and community building.

GRCC participants began the process of developing substantive recommendations at our very first meeting, which was professionally facilitated by Lisa Freedman and included the first of several group brainstorm sessions. Every idea for addressing climate change was recorded, sorted into categories reflecting the themes of each subcommittee, and distributed to the appropriate subcommittee for consideration.

The subcommittees were charged with vetting each of the ideas and researching in greater depth those that seemed the most impactful for Menlo Park. The goal was to develop these ideas into actionable proposals. Each subcommittee developed its own unique review method. As an example, members of the Energy and Waste Reductions subcommittee spent several hours discussing the full body of brainstorming suggestions in the context of initial research by participants on energy efficiency, energy generation, and waste reduction. Each member selected one or more topics to develop in depth and presented their initial findings to the group. Members used the feedback from these discussions to guide their research and shape their final proposals.

Each subcommittee presented a progress briefing to the full GRCC plenary and received feedback on specific proposals, gaps in their thinking, and possible overlaps with other proposals under consideration. These briefings were invaluable in creating a more cohesive approach to addressing the climate change challenges in our community

Subcommittees met on one or several occasions with City staff to better understand Menlo Park’s existing programs. Some subcommittees consulted with experts (arborists, green builders and architects, energy efficiency experts, etc.) and each subgroup also asked questions of each of several more prominent expert speakers during GRCC plenary sessions.

Each subcommittee was asked to submit the proposals that had the support of its membership for this report. And, each of these groups determined whether the threshold of support was a simple majority, consensus, or some other standard. The subcommittees collectively submitted 130 recommendations, using a common template. These are described in full in Sections 2 through 6 of this Report.

The process of deciding which of the full set of 130 recommendations would be featured as “high priority” action items within this report posed a unique challenge, paralleling the societal challenge of prioritizing the multi-dimensional, multi-sector efforts needed to effectively address the climate change crisis.

The GRCC ultimately decided to come together as a full body, for a 3-hour session, open to the general public and publicly noticed and promoted in the *Almanac*, to vote using a decision support software tool called OptionFinder™ that promotes citizen engagement in civic policy making. Through the MPGRCC Yahoo Group, participants were provided on-line access to full details on all recommendations a week in advance of this process, to allow them to educate themselves about each proposal. Voting and ranking sheets were provided, grouped by subcommittee and then by category of proposal within each subcommittee. These voting and ranking sheets can be found in the Appendix.

Each category contained a list of pertinent proposals. Participants were asked to separately rate first the “impact/importance” and second the “feasibility” of each proposal, each on a “1” to “10” scale. Participants used wireless, handheld voting keypads to enter their responses into OptionFinder™.

As the instant voting on all items for each subcommittee’s set of proposals was concluded, participants were able to instantly view the results together on a large screen, determine the level of disparity in responses, and discuss some of the results in depth. Results were made available according to three overlapping subgroups: All Participants (33 people), Menlo Park Residents (27), and Active GRCC Members (17). There was a remarkable level of consistency in the set of proposals that were ranked at or near the top among these three subgroups, although the rank order differed slightly in some instances.

In order to identify a final set of featured, or “high priority” recommendations, the coordinating committee decided to include every recommendation that had an average ranking of at least “8” in either the “impact/importance” or the “feasibility” section by one or more of the subgroups named above. This resulted in the 32 recommendations that are described within the subcommittee sections that follow.

We wish to point out that each of the 130 included recommendations was regarded as important enough that at least one individual, if not a small team, invested time to research and prepare a description and justification. It is our hope that every recommendation will be thoughtfully considered as part of a climate action plan along with forthcoming community input.

A. Energy & Waste Reduction Subcommittee

The Energy & Waste Reduction Subcommittee focused on initiatives related to energy conservation, energy generation, and waste reduction. Of paramount importance to our group were measures that can significantly reduce greenhouse gases while providing financial or other incentives to stakeholders. Electricity and natural gas use across the commercial, institutional, educational, and residential sectors is responsible for more than 45% of the greenhouse gas emissions in Menlo Park, or approximately 200,000 tons of CO_2 equivalent per year. Because PG&E's electricity mix is already among the cleanest in the nation, with about 53% coming from non-carbon emitting sources, use of natural gas, a fossil fuel, comprises about 2/3 of our community's GHG footprint. Therefore, natural gas efficiency measures must be a high priority focus.

- Energy conservation is the most expeditious means for reducing greenhouse gases and generally offers significant financial benefits following implementation. Keplers Bookstore is a great example from our community. Approximately $2,000 was invested in retrofitting all of the interior lighting, resulting in a *perpetual monthly savings of more than $1,000*. Similarly, the City's main library underwent HVAC efficiency improvements costing about $8,000 which saves about $40,000 per year over the 20+ year life of the equipment.

- Renewable energy generation measures are important to find carbon neutral substitutes, such as solar power, for energy needs that cannot be conserved.

- Waste reduction provides further greenhouse gas benefits because the methane gas released from the decomposition of organic landfill wastes is more than 20 times more harmful to the climate than carbon dioxide.

Highest Priority Recommendations

Recommendation	Letter Code	Primary action by city	Priority/Impact Score			Feasibility Score		
			GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)	GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)
Establish goal of climate neutrality for Menlo Park community by 2030 and require a Climate Action Plan to address both GHG reduction and GHG offsets	A	Yes	9.4	8.0	8.4	8.6	7.6	8.2
Adopt a resolution to require commercial recycling participation for companies with high levels of waste	T	Yes	8.4	8.1	8.3	7.8	7.3	7.4
Adopt a resolution to increase waste diversion target to 75% or more.	S	Yes	8.6	8.0	8.2	8.3	7.8	7.8
Identify large municipal & commercial sites suitable for solar generation, inform property owner of available incentives	O	Yes	8.1	7.9	8.1	7.8	7.8	8.0
Increase Participation of MP Commercial and Business Sector in more sustainable activities including PG&E Energy Efficiency Programs	C		8.1	7.4	7.7	8.3	7.0	7.5
City develops a sustainable purchasing policy to decrease adverse impacts and set good example	D	Yes	7.3	6/8	7.0	8.2	7.8	7.9

Climate neutrality for Menlo Park will require a community-wide effort to lower greenhouse gas emissions as much as possible through conservation, substitution of CO_2 emitting energy generation with clean technologies, sequestration of carbon through planting appropriate species of trees and other vegetation, and purchasing high quality CO_2 offsets to mitigate the remaining, levels of greenhouse gases that are subsequently emitted by the community, which should be increasingly, even dramatically lower over time. While the specific GHG reduction impact of each of these highest priority recommendations and our full set of proposals has not yet been quantified, we believe that the impact will be substantial, but achieving the overall goal of climate neutrality would ultimately zero out Menlo Park's total GHG impact.

B. Transit & Transportation Subcommittee

The Transit/Transportation Subcommittee went through its near 10 month process with an ebb and flow in attendance, interest level and strongly held positions. The process was educational in that we learned that there were three different kinds of solutions that would reduce our carbon foot print:

- Projects that come under the jurisdiction of authorities other than the City of Menlo Park such as High Speed Rail;

- Ideas that only the City, as a government entity, can oversee such as implementing the MP Bicycle Commission's Master Bicycle Plan

- Personal decisions that we, as residents could do such as stepping out of our comfort zone *and using the train instead of a car to get to AT&T Park and watch the Giants play in San Francisco.*

The first group was fairly easy. Asking the council to go on record as supporting the electrification of Caltrain requires little for us to do. For a project like the Dumbarton Rail Project that has been in the works for many years, decisions are made by regional boards and the funding comes from County, State and Federal sources. Asking the Council to support the Dumbarton Rail Project does cause concern for some MP residents due to the reconstruction of the rail line close to the Suburban Park neighborhood and this item did not make it into the top-ranked suggestions.

A quick poll of participants in the GRCC's voting and ranking process indicated that few are public transit users, and perhaps could not appreciate this Subcommittee's proposal to have the City play a more active role with SamTrans to upgrade local transit amenities. It is apparent that most Menlo Park residents rely on the convenience of their automobiles and are perhaps less attracted to proposals that would make using public transportation more attractive.

Two of this subcommittee's top four suggestions, recommending support for both the electrification of Caltrain and construction of high speed rail require nothing more of the City. Two other top-ranked suggestions are complex, challenging and could take over a year to complete: creating policy for a Safe Routes to School Program and adding a Provision for Transit Oriented Development zoning into the General Plan. Both of these items come under our City Council's authority and the decision making process could exceed the term of the current Council composition and require that their successor Council finalize the process.

Items T (working with schools to encourage walking and biking and safe routes program) and R (implementing City's existing Master Bicycle Plan for facilities and improvements) represent the most proactive policies that the City could implement towards the reduction of CO_2 in Menlo Park. Together these suggestions would result in an annual reduction of 5,500 tons of CO_2 by the year 2020. This is quite impressive as using a bicycle is such a simple act of living green.

This 10-month process is just a small first step towards the GRCC's goal and much of the real work will require some sacrifice on the part of Menlo Park residents. Passing responsibility on to other agencies, jurisdictions and service providers will not suffice to give us the results we need to make progress in this critical campaign to slow climate change.

Highest Priority Recommendations

Recommendation	Letter Code	Primary action by city	Priority/Impact Score			Feasibility Score		
			GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)	GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)
Work with schools to encourage walking and biking and safe routes program	T		8.8	9.2	9.0	8.1	8.5	8.2
Support Electrification of Caltrain, (Reduction of carbon emissions by 2/3)	C	Yes	7.9	8.4	8.5	6.6	6.1	6.7
Establish policies that encourage accessible sidewalks and bike lanes	Q	Yes	8.4	8.8	8.4	8.1	8.5	8.1
Support High Speed Rail to reduce reliance on air and auto modes from Bay area & Sacramento to Los Angeles	D	Yes	8.3	8.2	8.4	7.1	6.7	6.9
City continues bid processes to select service providers that use green practices.	2A	Yes	8.1	8.0	8.3	7.6	7.3	7.4
Add Provision for Transit Oriented Development zoning into General Plan	V	Yes	8.2	7.7	8.1	7.5	7.7	7.8
Implement City's existing Master Bicycle Plan for facilities and improvements	R	Yes	8.1	8.1	8.1	7.5	8.0	7.6

Transportation emission reductions are critical as this is the city's number two emissions source. We learned during the GRCC process about how neighborhood concerns can influence the end result by observing that two of the more effective ideas for CO_2 reduction in Menlo Park didn't quite make the priority list. **Caltrain Electrification** will reduce the current Caltrain emissions by 2/3, and to the extent **High Speed Rail** replaces current SF-LA-Sacramento auto and air trips, the saving statewide will be enormous. A complete implementation of the **City's Bike Master Plan** could result in a CO_2 reduction of 5500 tons/year by 2020 based on anticipated car trip reduction predicted by the Plan. The adoption of a policy codifying **Transit Oriented Development** on the El Camino Corridor with reduced parking requirements and increased density has great potential to eliminate local and regional car trips. However, those benefits are difficult to estimate at this time.

C. Land Use and Building Subcommittee

Our subcommittee was fortunate to include a number of talented individuals who brought considerable breadth and depth of knowledge in various aspects of land use and building. After meeting together 1-2 times biweekly for the duration of the GRCC effort, our group focused on initiatives related to:

- *Sustainable Building* - Buildings, considering their ongoing operation and the processes of construction and renovation, represent one of the largest opportunities to reduce energy consumption and related GHG.
- *Sustainable Water Conservation and Landscaping* - Movement of water is one of the highest uses of energy in California. Thus, conserving water will help reduce energy-related greenhouse gas emissions as well as preserve this scarce resource, without which none of us can live a single day.
- *Urban Forest* - Maintaining a healthy urban forest is an important part of the City's desire to mitigate its greenhouse gas emissions through carbon sequestration and long-term storage.
- *Land Use* – Decisions about where and how to accommodate growth can help reduce dependence on the automobile to conserve energy and reduce air pollution, and to preserve land that can be used for community parks and carbon sequestration.

As we prepared our recommendations, we identified actions that could begin now and that would be essential to take in order to reduce our community's greenhouse gas emissions. With the belief that many best practices exist, we researched approaches being taken by other communities as well as supporting documentation and recommendations that could be available on an ongoing basis from research and professional organizations. We narrowed down the numerous ideas that were created during brainstorming sessions to 23 recommendations that we believe are very important and actionable. During the full GRCC's priority-setting process, 7 of these were ranked among the top priorities at this time.

The highest ranked recommendation is to institute sustainable building guidelines and checklists with required compliance phased in over time, beginning with municipal projects (to gain experience and set an example), followed by commercial and residential, as a major step to reduce the energy requirements of new buildings. Also highly rated were land use recommendations to encourage multi-story mixed-use projects downtown, including senior housing, and other areas where such uses now co-exist.

Several highly ranked recommendations relate promoting and increasing the city's urban forest through use of best practices and tree replacement by the city itself as well as through an update of the city's Heritage Tree Ordinance. Two additional highly rated recommendations promote water conservation through expansion of the existing water efficient ordinance to include new projects, and imposing turf limitations and landscaping water-efficiency requirements.

Highest Ranked Recommendations

Recommendation	Letter Code	Primary action by city	Priority/Impact Score			Feasibility Score		
			GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)	GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)
Promote sustainable building practices by instituting checklists such as LEED and BIG, and by providing over-achievement incentive of expedited building permit approval	A	Yes	9.2	9.2	9.2	8.8	8.8	8.8
Encourage multi-story & higher density housing projects in the downtown area including senior housing	N	Yes	9.0	8.3	8.5	7.2	7.1	7.0
Protect and maintain healthy trees on MP city lands by employing sustainable Best Management Practices	V	Yes	8.8	8.3	8.3	8.4	8.4	8.3
Establish turf limitations and water efficient landscape requirements	F	Yes	8.2	8.2	8.3	7.2	7.0	7.2
Include new residential and major renovation projects in water efficient Ord. #840	E	Yes	8.2	8.1	8.3	7.6	7.3	7.5
Encourage multi-story, mixed use housing and retail/office projects in the downtown area and in all other areas where housing and other uses now co-exist	O	Yes	8.9	8.0	8.2	7.4	7.4	7.3
Revise MP's Heritage Tree Ordinance to protect our old healthy trees more effectively	T	Yes	8.5	7.9	7.8	7.5	7.7	7.5
Remove one dead tree and replace with two live trees on MP City lands to rebuild our Urban Forest	U	Yes	8.1	7.7	7.7	7.7	7.5	7.7

The remaining recommendations, found in the Appendix to this report, should be examined for implementation once the higher ranked measures have begun. While the specific GHG reduction impact of these highest priority recommendations and our full set of proposals has not yet been precisely quantified, we believe that the impact will be substantial.

Our recommendations, if implemented, will establish Menlo Park as a leader in promoting progressive and sustainable land use and building policies that mitigate climate change caused by CO_2 emissions and will improve the environmental, social and economic quality of life for our residents.

D. Communications, Outreach, and Public Education Subcommittee Goals and Objectives

Communication and education are critical components to the successful achievement of the reduction of greenhouse gas emissions for Menlo Park. It is the charter of this Subcommittee to:

- Provide educational support and communication planning for each of the GRCC areas of focus: Energy and Waste Reduction, Transit and Transportation, Land Use and Building, and Green Business Development;

- Develop outreach programs for all of the different and varied communities and constituents of Menlo Park including, but not limited to: residents, businesses, schools/young people, retired, ethnic groups, and faith communities.

- Use all available communication channels from existing print media to the newer Internet oriented platforms.

- Make existing information on climate change easily available to the community.

The underlying objective of the Communications recommendations is to use existing information, resources, communication channels and tools as much as possible. As a relatively small community, our advantage is not in creating more original material about climate change; rather it is in our ability to reach out to members of our community, and to make the information easy to access and apply at a local level.

It is important to raise awareness of the issues, educate, and provide practical information for behavior change.

Highest Priority Recommendations

Recommendation	Letter Code	Primary action by city	Priority/Impact Score			Feasibility Score		
			GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)	GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)
Teach sustainable building - Conduct educational session(s) on sustainable building for architects, builders, developers, & homeowners. Work with Green Building Exchange & consider cooperating with other peninsula cities to avoid duplication of efforts.	A		8.9	8.7	8.9	8.1	7.5	7.7
Encourage recycling at city functions, parties, shows, Santa Cruz Avenue events (including Connoisseur's market) – there should be 100% recycling, including re-usable or recyclable plates/napkins/eating utensils. Encourage restaurants to use compostable containers, plates, cups…	M	Yes	8.5	8.7	8.6	8.5	8.5	8.3
Promote tap water use - Promote Menlo Park tap water vs. bottled water. Provide information about what to do if you have lead pipes.	L		8.7	8.6	8.5	8.6	8.6	8.4
Promote green practices at schools - Promote green practices at schools, scouting and other kids clubs. Suggestions include contests at schools: successful energy conservation, who walks/bikes most often, essay contests, posters, artwork, and a Green Science Fair	X		8.4	8.5	8.4	8.2	8.3	8.0
Encourage schools to promote alternative transportation - Encourage public and private schools to publicize walking, biking, and carpooling as safe and healthy ways to get kids to school.	P		8.4	8.7	8.4	7.9	8.4	7.9
In Home Energy Audits: Green@Home (with a focus on the lower income neighborhoods first and spreading to all neighborhoods).	D		8.4	8.2	8.3	8.3	8.1	8.0
Conduct a series of town hall meetings in the Spring of '08 to engage the public about the top ideas we recommended to the City Council & Staff in order to help get them approved in next years' budget. A major part of this effort will be to educate & inspire the public to make significant changes in their homes & communities to reduce GHG emissions.	2B	Yes	8.6	8.4	8.2	8.5	8.2	7.9
Provide education about energy reduction - Businesses, Schools, Institutions, Multi Family Dwellings, and Residential: Provide information about costs, ongoing costs, and environmental impacts of consumer and commercial purchase and use decisions. Ideally, this includes a graphic depiction of the impacts of taking relatively simple, high benefit measures, including electrical equipment, appliances, pools, and devices that use power when plugged in even when "off".	E		8.3	8.1	8.2	7.8	8.0	7.7

The recommendations most highly prioritized by the GRCC fall into several groups:

Provide practical education about emissions reductions

According to the preliminary ICLEI report, emissions from business and residential heating and electricity account for over 45% of our GHG footprint with natural gas comprising about 2/3 of that total. Three of the recommendations help to provide practical education about emissions reductions.

- *Teach sustainable building* – Conduct educational session(s) on sustainable building

for architects, builders, developers, & homeowners. This recommendation applies to the emissions that result from new and retrofitted commercial and residential buildings. Menlo Park has the opportunity to work with Green Building Exchange and cooperation with other area cities to leverage existing programs.

- *Promote energy audits* – Promote audits working with Partners, including PG&E and Acterra Green @ Home program. These audits help reduce the emissions footprint of existing buildings.
- *Provide education about energy conservation* – Continue the city's existing practice to share information about conservation. Leverage existing venues such as the city website, newsletter, kiosk, and tables at existing events, and take advantage of material from PG&E, Acterra, and Sierra Club.
- *Teach the next generation* – Two of the prioritized recommendations involve education and practices for kids and their families. Preparing the next generation is essential to long term sustainability.

- *Promote green practices at schools, scouting and other kids clubs* – Suggestions include contests at schools: successful energy conservation, who walks/bikes most often, essay contests, posters, artwork, and a Green Science Fair. There is a wealth of existing programs to draw on, for example: http://cooltheearth.org, and other Bay Area communities that are serving as models.

- *Encourage public and private schools to promote walking, biking, and carpooling as safe and healthy ways to get kids to school* – This recommendation aims to reduce the emissions footprint resulting from commuting to school. The City of Palo Alto has a program of Walk and Bike to school days that could be extended to Menlo Park: http://www.cityofpaloalto.org/depts/pln/news/details.asp?NewsID=206&TargetID=107

Set an example

Two of the recommendations have lower impact on tons of greenhouse gas emitted, but help to raise awareness and set an example for the community.

- *Encourage recycling at city functions, parties, and public events such as Santa Cruz Avenue events* – This is an extension of the city's existing practice.

- *Encourage the use of tap water instead of bottled water* – This reduces the emissions produced by the bottling and transportation of bottled water.

Raise awareness across the community

The Menlo Park GRCC process engaged over 100 residents in considering ways to reduce our community's carbon footprint. We recommend bringing the awareness of climate change and information about practical ways to reduce greenhouse gas emissions to a broader audience by holding a series of town meetings.

In addition to the town meetings, the City Council has already approved several measures to raise awareness and provide information using the city's website, and reviving the “Menlo Info” print newsletter.

Bonus recommendation: Intern Program to Help Disseminate Information

An intern program was among the preliminary recommendations of the GRCC to City Council in the last budget cycle. This item was not approved, in part because it was not clear at that early stage what the benefit of the intern program would be.

Now that the Communication and Education Subcommittee has put together its recommendations, it is clear that there is a set of activities that would benefit strongly from intern contribution.

Many of the Subcommittee recommendations involve taking existing information from a variety of sources and disseminating it through a variety of existing channels, and partnering with existing organizations such as Green Building Exchange and Acterra.

A group of interns from Stanford, or other local educational institutions, could be very helpful in significantly extending the capacity of time constrained City staff and volunteers. An intern program could be run at low cost and high benefit to the community.

It is the hope of this Subcommittee that all existing channels of communication be fully leveraged to further education and involve all of the citizens of Menlo Park in the fight to reduce our carbon footprint and hence our planet.

E. Green Business Subcommittee

Green Economy and Menlo Park: The City of Menlo Park is the home of the most concentrated venture capital in the United States. This financial community accounts for the majority of billions of dollars of investment in clean technologies and the corresponding innovations that are in increasingly greater demand as worldwide efforts to address climate change ramp up. As New York Mayor Michael Bloomberg said at the November U.S. Conference of Mayors Climate Protection Summit, "Green energy is going to be the oil gusher of the 21st century. This is going to be a huge industry."[25]

Given all of these factors Menlo Park has the opportunity and obligation to lead in the new green economy, and invite others to join in following our established guidelines.

Green Business Subcommittee: Within the Menlo Park GRCC, the Green Business Subcommittee's work stands on its own because it reaches far beyond the initial findings of the citizen's committee. This preliminary work provides a starting point for the City going forward. It spans the full spectrum of recommendations concerning both the commercial and residential sectors. Most importantly, it highlights the enormous possible opportunities of working more closely with the surrounding investment and academic communities for partnerships and sources of funding.

Moreover, it is the hope of Green Business that the City and its staff carefully review this work and use it to develop initiatives leading to new sources of revenue and innovation. The City has, in the past, played a leadership role in the fostering and funding of innovation in the high tech industries. Now the opportunity exists to extend this vision to include the technological efforts involved in the "greening" of the Bay Area, California and the World.

Highest Priority Recommendations: The highest priority Green Business recommendations from the nine-month study conducted by the GRCC focus primarily on streamlining the permit and planning process for green building and green upgrade projects by existing businesses and residents in the City. As articulated below, these recommendations extend to the commercial sector to encourage the use of low energy appliances in both residences and businesses within the City; and focus primarily on the past successes of solar installations in the neighboring residential communities.

We recommend that the City immediately implement the already budgeted elimination of solar permit fees for photovoltaic and solar thermal installation on both residential and commercial properties to remove this disincentive. However, more should be done to foster renewable energy use in Menlo Park. For example, the City of Berkeley, California is set to become the first city in the U.S. to allow property owners to pay for solar system installation and energy efficiency improvements as a long-term assessment on their individual property tax bill. This is a creative initiative worth exploring for Menlo Park. http://www.renewableenergyaccess.com/rea/home

[25] Los Angeles Times, Sunday, November 04, 2007, p. A15.

Highest Priority Recommendations

Recommendation	Letter Code	Primary action by city	Priority/Impact Score			Feasibility Score		
			GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)	GRCC (n= 17)	Menlo Park (n= 27)	All (n= 33)
Develop a carefully articulated, feasible and streamlined permit process for commercial and residential landlords to upgrade their properties with green technologies and practices that reduce green house gas emissions. This includes replacement of high energy consumption appliances. (refrigerators, washers, dryers, etc.)	X	Yes	9.0	8.9	9.1	7.4	7.4	7.4
Streamline the commercial permit and planning process for green upgrades within the city.	G	Yes	8.6	8.4	8.5	8.0	8.2	8.2
Eliminate all solar permit fees for both residential and commercial properties.	U	Yes	8.1	8.2	8.2	7.8	8.1	7.9

It will, however, be necessary for the City to reach far beyond the above recommendations to achieve long-term success for the reduction of CO_2 emissions in the City both from the residential and commercial sectors.

Short Term Opportunities: To this end, it is again the hope of the Green Business Subcommittee that that the Council take an in-depth review of the full set of recommendations because the City can in the immediate future go further, and it is the hope of this Subcommittee that that the City will:

- Provide incentives to “mainstream businesses” (“brick and mortar”) to significantly reduce their carbon footprint, and become more “green” in their daily operations.
- Retain a majority of the newly funded green-tech ventures from the local investment community; and
- Conduct business development with the neighboring academic and investment communities with the goal of making Menlo Park the hub of “green” business for Silicon Valley.

Critical and Longer Term Questions:

- What steps are necessary for the City to attract and retain companies and businesses, in this new green economy?
- How does Menlo Park distinguish itself from surrounding communities?
- And how does the City rise up to these challenges? Will it involve hiring additional City personnel and/or tapping internship support? Is there room in the budget? Can a public-private partnership or sources of private funding endowment be established to fund City efforts? How can the City continue to

leverage the substantial expertise of the members of this Green Business Subcommittee?

Green Business Subcommittee Conclusions**:** Our challenge is to become more than a city where there are a lot of green businesses. Rather it is to become a city which fosters a constant dialogue between thought leaders and the community. Menlo Park can have an enormous positive impact on our global environment and economy. It can become an essential component to the new "oil gusher of the 21st century." This is the moment to seize the opportunities. It is the responsibility, obligation and challenge of the City to lead now and to realize these tremendous opportunities and economic benefits.

5. NEXT STEPS

"Come gather 'round people wherever you roam
And admit that the waters around you have grown
And accept it that soon you'll be drenched to the bone.
If your time to you is worth saving'
Then you better start swimmin' or you'll sink like a stone
For the times they are a changin'." – Bob Dylan

A. Menlo Park City Council

Treating the changes underway in the climate as a crisis, and not simply as "just another problem" within a voluminous agenda of nagging civic issues, requires a strong response and high priority action.

The GRCC calls on City Council to respond to the climate change challenge by:

- Authorizing an appropriate and expeditious review of our high priority proposals by City staff for prompt presentation to the Council to ensure that these measures are included in the 2008-2009 budgeting cycle.
- Launching a process to develop, as quickly as possible, a **climate action plan** to ensure that these and future measures are adopted in a synchronized, phased fashion, and in the most effective manner possible. The full body of GRCC proposals is intended to speed the development of such a plan by the City and broader community and should be regarded as our initial input into this plan. Additionally, the plan would consider the just-received consultant's report of Menlo Park's 2005 baseline greenhouse gas emissions.
- Budgeting for initial and ongoing implementation of the climate action plan, including support for continuing community involvement (e.g., the GRCC).

The GRCC also asks City Council to ensure that processes are put in place to monitor the adoption of climate change measures and the community's overall progress in greenhouse gas reduction. This effort may require a combination of staff, consultative, and Commission efforts, supplemented by community volunteers.

B. Green Ribbon Citizens' Committee: Phase Two

Upon delivery of this Report to City Council on November 20, 2007, the GRCC will compile lessons learned from this process to incorporate in our Phase Two and share with other communities. We are also planning a session with City staff, to enable them to experience the same electronic prioritization process, after a detailed review of this entire report, to compare their sense of the importance and feasibility of the 130 recommendations to those of the GRCC. It is possible staff will identify items that fell below the GRCC's prioritization cutoff that the City feels are easy enough to include in ongoing internal plans. The GRCC, working with City Council and staff, will then determine the appropriate focus and form of organization for our next set of efforts.

Under consideration by the GRCC for its next phase are:

- *Projects* - to build alliances with community organizations (e.g., Chamber of Commerce, Cool Cities Project, Acterra, school districts, faith-based groups, etc.) to implement many of the proposals from this Report.
- *Public education* - to address the risks and local solutions. GRCC members have already been approached by counterpart citizen groups in Los Altos, Redwood City, San Carlos, and other municipalities to share best practices.
- *Advocacy role* - to ensure that municipal recommendations are expeditiously considered and implemented.
- *Resource support* - for City staff and commissions in climate change related activities, including implementation of our recommendations.
- *Exploration* - of additional climate change related issues, such as adaptation, methane gas mitigation in Bayfront Park, and mitigation of air travel (a round-trip cross-country flight generates an equivalent GHG emission impact as driving an automobile for 9 months).

We also intend to accept City Manager Rojas' invitation to brainstorm with city staff toward creating a timeline for our respective next steps.

C. Conclusion

Local communities such as Menlo Park can experience great benefit and avoid substantial long-term costs by organizing comprehensive efforts to address climate change right now as a risk management strategy. With our community's unique confluence of venture capital funds, high technology firms, world class educational institutions, and location within Silicon Valley, Menlo Park can also reap great financial rewards from the development of clean technologies and enterprises that will be well-positioned to meet growing worldwide demand for needed solutions.

Menlo Park as a community has the opportunity to become a role model for what is possible when a small city with a forward-thinking and determined population, commits to long-term action toward a serious and far-reaching crisis. By taking rapid and comprehensive steps toward energy conservation and adoption of clean technologies in our commercial, municipal, and residential sectors, Menlo Park can demonstrate a strong commitment to the future and become an attractive home for many of these vibrant efforts.

The Menlo Park Green Ribbon Citizen's Committee members believe that nothing short of a comprehensive effort on global, national, state, and local levels will be sufficient for addressing the climate crisis. The proposals submitted within this report are intended to point the way toward a comprehensive local approach that will leave a proud legacy for Menlo Park's leaders and citizens.